

Supplementary Information

Predictive Design of Sustainable Biobased Packaging *via*

Machine Intelligence for Improved Postharvest Preservation

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This supplementary information file includes:

- **Supplementary Note 1–Note 12**
- **Supplementary Fig. 1–Fig. 28**
- **Supplementary Table 1–Table 19**
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Supplementary Note 1. Estimated number of experiments required to build an extensive dataset for biobased nanocomposites.

In this study, a total of 23 natural and Generally Recognized As Safe (GRAS) components were selected for the materials library (see **Table 1**). Biobased nanocomposites were fabricated based on the rule of selecting any five components from 23 and mixing them at varying ratios. The total number of possible formulations (denoted as N) was estimated using **Equation S1**,

$$N = \binom{x}{5} \times \binom{k+4}{4} \quad (\text{S1})$$

, where x represents the total number of natural/GRAS components in the library (i.e., $x = 23$) and k corresponds to the number of steps from 0.0 to 100.0 wt.% (with a step size of 2.0 wt.%, $k = 50$). Through this equation, the total number of possible formulations was calculated to be 1.06×10^{10} .

$$N = \binom{23}{5} \times \binom{50+4}{4} = 1.06 \times 10^{10}$$

Meanwhile, each nanocomposite film, 8 property labels (including T_{UV} , T_{Vis} , T_{IR} , RR, σ_u , ε_f , E , and SED) were required to be collected, derived from its transmittance spectrum, fire-retardant testing result, and stress–strain curve.

Supplementary Note 2. Selection rationale of 23 natural and GRAS components for the fabrication of biobased nanocomposites.

Laponite (LAP) is a layered silicate known for its excellent gelation properties. Its nanoclay structure enables the formation of stable barrier films, making it an effective component in food packaging^{1,2}. With a high surface area and the ability to form colloidal suspensions, LAP functions as a thickener, stabilizer, and moisture barrier. Additionally, its inherent biodegradability aligns with sustainability goals, offering an eco-friendly alternative in packaging applications³.

Montmorillonite (MMT) is a naturally occurring clay with a high surface area and strong adsorption capabilities, making it an effective gas and moisture barrier in packaging applications. Its layered structure allows for intercalation with polymers, significantly enhancing the mechanical strength of resultant nanocomposites. As an environmentally friendly material that does not contribute to plastic waste, MMT offers a sustainable solution for improving packaging performance while reducing reliance on petrochemical-based materials^{4,5}.

Carboxymethyl cellulose (CMC) is a cellulose derivative known for its excellent film-forming capabilities and water solubility, making it an ideal candidate for biobased packaging. Also, CMC-based films offer effective moisture barriers, and CMC is often combined with other biopolymers to enhance mechanical properties. As a non-toxic and environmentally friendly material, CMC readily decomposes, contributing to sustainable packaging solutions⁶⁻⁸. CMC is listed as a GRAS substance in the GRAS Substances (SCOGS) database by the U.S. Food and Drug Administration FDA⁹.

Cellulose nanofiber (CNF) is a biodegradable and renewable material with exceptional mechanical strength and flexibility. Its nanoscale structure increases surface area, enhancing barrier properties and reducing gas permeability in biofilms. CNF serves as an effective

reinforcement component in biodegradable packaging, improving durability and sustainability^{10,11}. CNF is listed as a GRAS substance in the GRAS Substances (SCOGS) database by FDA⁹.

Silk (SLK) is a biocompatible and biodegradable material capable of forming strong, flexible films. Due to its non-toxic nature and ability to provide a natural barrier against oxygen and moisture, silk-based materials have been explored for food packaging applications to help preserve food quality¹²⁻¹⁴.

Gelatin (GEL) is a natural polymer derived from collagen and exhibits excellent film-forming properties. Biodegradable and edible, gelatin films serve as effective oxygen barriers, making them ideal for biodegradable packaging¹⁵⁻¹⁷. GEL is listed as a GRAS substance in the GRAS Substances (SCOGS) database from FDA⁹.

Chitosan (CHS) is a biopolymer derived from chitin, known for its biodegradability, biocompatibility, and excellent film-forming properties. It exhibits intrinsic antimicrobial activity and provides an effective oxygen barrier, making it an ideal material for food packaging to extend shelf life^{18,19}.

Agarose (AGR) is a natural polysaccharide extracted from seaweed that forms strong hydrogels and biodegradable films. It is non-toxic and retains moisture effectively, making it particularly suitable for packaging fresh produce by helping maintain water content and prolonging freshness²⁰⁻²².

Alginate (ALG) is a naturally occurring polysaccharide obtained from brown algae, widely used for its ability to form flexible, biodegradable films. While it serves as an efficient gas barrier, its permeability to water vapor can be reduced by combining it with other biopolymers. Its biodegradability, non-toxicity, and mild gelation conditions make it a sustainable choice for eco-

friendly food packaging^{22,23}. ALG is listed as a GRAS substance in the GRAS Substances (SCOGS) database from FDA⁹.

Pullulan (PUL) is a polysaccharide produced by *Aureobasidium pullulans*, known for forming thin, transparent, and flexible films with excellent oxygen barrier properties. It is biodegradable, water-soluble, and commonly used in edible coatings, making it an ideal choice for eco-friendly packaging^{24,25}.

Carrageenan (CAR) is a polysaccharide derived from red algae, valued for its gel-forming capabilities. In food packaging, it functions as a biodegradable film with strong water retention and oxygen barrier properties. When blended with other biopolymers, it enhances film strength and flexibility²⁶⁻²⁸. CAR is listed as a GRAS substance in the GRAS Substances (SCOGS) database from FDA⁹.

Starch (STA) is a naturally abundant biodegradable polysaccharide that forms films with strong oxygen barrier properties, though it is less effective against moisture. To improve flexibility and mechanical strength, it is often combined with other biopolymers, providing a viable alternative to synthetic plastics^{29,30}. STA is listed as a GRAS substance in the GRAS Substances (SCOGS) database from FDA⁹.

Furfural (FFA) is a renewable compound obtained from agricultural byproducts such as corn cobs. It is used in the production of biodegradable resins and packaging films due to its polymerization ability, which enhances the mechanical durability of biobased nanocomposites³¹.

Pectin (PEC) is a fruit-derived polysaccharide that is biodegradable and capable of forming gels under specific conditions. It is frequently used in food packaging films due to its non-toxic nature and ability to function as a moisture and gas barrier. Assembling with other materials further

enhances its mechanical properties³². PEC is listed as a GRAS substance in the GRAS Substances (SCOGS) database from FDA⁹.

Zein (ZIN) is a corn-derived protein that forms biodegradable, hydrophobic films with exceptional oxygen barrier properties. ZIN-based films are flexible, glossy, and highly effective in protecting moisture-sensitive products, making them an ideal choice for sustainable food packaging applications³³.

Gluten (GLU) is a natural protein derived from wheat, widely utilized in biodegradable food packaging for its excellent film-forming capabilities. GLU-based films offer strong oxygen barrier properties and moderate resistance to water vapor, both critical for food preservation. As a renewable material sourced from agricultural byproducts, GLU provides a sustainable alternative to synthetic plastics. Furthermore, GLU-based films are flexible, transparent, and can be directly applied to food products or incorporated into multilayer packaging structures, enhancing their versatility in packaging applications³⁴.

Glycerol (GLY) acts as a plasticizer in biopolymer-based films, enhancing flexibility and reducing brittleness. It is commonly incorporated into biopolymer matrices to improve mechanical properties, ensuring elasticity while preserving biodegradability³⁵. GLY is listed as a GRAS substance in the GRAS Substances (SCOGS) database from FDA⁹.

Xylitol (XYL) is a sugar alcohol that functions as a plasticizer in biopolymer-based films, similar to glycerol. Its incorporation enhances film flexibility, prevents brittleness, and improves mechanical performance, contributing to the sustainability of biodegradable packaging³⁶.

Sorbitol (SRB) is a widely used plasticizer, particularly in starch-based packaging films. It enhances flexibility and water resistance while maintaining biodegradability, making it an effective additive in sustainable packaging applications³⁷.

Phytic acid (PHA) is an organic compound that enhances the stability and barrier properties of biopolymer films. When incorporated into biodegradable packaging, it improves resistance to oxygen and water vapor, effectively extending food shelf life^{38,39}.

Lactic acid (LAC) is a key precursor in the synthesis of polylactic acid (PLA), a widely used biodegradable polymer that provides a sustainable alternative to conventional plastics⁴⁰.

Levulinic acid (LEV) is a biobased plasticizer that enhances the flexibility of biopolymer-based materials while maintaining their biodegradability, making it a valuable additive in sustainable packaging applications⁴¹.

Succinic acid (SUA) is a key precursor in the synthesis of poly(butylene succinate) (PBS), a compostable biopolymer used in eco-friendly packaging. Derived from renewable sources, SUA is biodegradable and can be metabolized by microorganisms, ensuring minimal environmental impact⁴².

Supplementary Note 3. Commercial sources and preparation methods of 23 natural and GRAS components used in this work.

Materials. Laponite (BYK Additives Inc.), montmorillonite (BYK Additives Inc., Cloisite Na⁺), sodium carboxymethyl cellulose (Sigma-Aldrich, high viscosity, 99%, CAS No: 9004-32-4), northern bleached softwood kraft (NBSK) pulp (NIST RM 8495), *Bombyx mori* cocoons (Gokseong-gun, Jeollanam-do), gelatin (Sigma-Aldrich, from cold-water fish skin, 99%, CAS No: 9000-70-8), chitosan (Sigma-Aldrich, 99%, CAS No: 9012-76-4), agarose (Sigma-Aldrich, 99%, CAS No: 9012-36-6), sodium alginate (Sigma-Aldrich, 99%, CAS No: 9005-38-3), pullulan (EastChem, 99%, CAS No: 9057-02-7), carrageenan (Sigma-Aldrich, 99%, CAS No: 9000-07-1), starch (Sigma-Aldrich, 99%, CAS No: 9005-84-9), furfural (Sigma-Aldrich, 99%, CAS No: 98-01-1), pectin (Sigma-Aldrich, 99%, CAS No: 9000-69-5), zein (Sigma-Aldrich, 99%, CAS No: 9010-66-6), gluten (Sigma-Aldrich, 99%, CAS No: 8002-80-0), glycerol (Sigma-Aldrich, 99%, CAS No: 56-81-5), xylitol (Sigma-Aldrich, 99%, CAS No: 87-99-0), sorbitol (Sigma-Aldrich, 99%, CAS No: 50-70-4), phytic acid (Sigma-Aldrich, 99%, CAS No: 83-86-3), lactic acid (Sigma-Aldrich, 99%, CAS No: 50-21-5), levulinic acid (Sigma-Aldrich, 99%, CAS No: 123-76-2), succinic acid (Sigma-Aldrich, 99%, CAS No: 110-15-6), TEMPO (Sigma-Aldrich, 99%, CAS No: 2564-83-2), sodium bromide (NaBr, Sigma-Aldrich, ACS reagent, 99.0%, CAS No: 7647-15-6), sodium hypochlorite solution (NaClO, Sigma-Aldrich, reagent grade, available chlorine 10–15%, CAS No: 7681-52-9), sodium hydroxide (NaOH, Sigma-Aldrich, reagent grade, 98%, CAS No: 1310-73-2), sodium carbonate (Na₂CO₃, Sigma-Aldrich, 99%, CAS No: 93673-48-4), lithium bromide (LiBr, Sigma-Aldrich, 99%, CAS No: 7550-35-8), acetic acid (Fisher Chemical, 99%, CAS No: 64-19-7), and ethanol (Koptec, 100%, CAS No: 64-17-5) were used without further

purification. Deionized (DI) water (18.2 M Ω) was sourced from a Milli-Q water purification system (Millipore) and used throughout this work.

Preparation of cellulose nanofiber (CNF) dispersion. The CNF dispersion was prepared following the previously reported methods.⁴³ First, 20 g of NBSK pulp was dispersed in 1.0 liter of DI water. TEMPO (2×10^{-3} mole) and NaBr (0.02 mole) were then added to the pulp suspension. The TEMPO-mediated oxidation process was initiated by adding 0.2 mole of NaClO, with the reaction maintained for 5–6 hours under continuous stirring. During this process, the pH was kept at 10.0 through adding 3.0 M NaOH solution. After the reaction, the pulp was washed several times with DI water until the pH returned to neutral (close to 7.0). The resulting pulp was processed using a microfluidizer (Microfluidics M-110EH), yielding a CNF dispersion with a final concentration of approximately 10 mg mL⁻¹.

Preparation of laponite (LAP) dispersion. Laponite dispersion was prepared by dispersing 15 g of laponite powder in 1.0 liter of DI water. The mixture was stirred continuously for 10 hours, resulting in a laponite dispersion with a concentration of 15.0 mg mL⁻¹.

Preparation of montmorillonite (MMT) dispersion. The preparation of MMT nanosheet dispersions was based on the previously reported methods.⁴⁴ MMT nanosheets were obtained by dispersing MMT powder in DI water at a concentration of 10 mg mL⁻¹. The mixture was ultrasonicated for 2 hours, followed by continuous stirring for an additional 12 hours. Afterward, the suspension was centrifuged at 3,200 rpm for 30 minutes, and the supernatant containing MMT nanosheets, with a concentration of approximately 9.0 mg mL⁻¹, was collected.

Preparation of sodium carboxymethyl cellulose (CMC) dispersion. A total of 10 g of sodium carboxymethyl cellulose was dissolved in 1.0 liter of DI water. The mixture was continuously

stirred for 24 hours at 60 °C, resulting in a sodium carboxymethyl cellulose solution with a concentration of 10.0 mg mL⁻¹.

Preparation of agarose (AGR) dispersion. A total of 10 g of agarose was dissolved in 1.0 liter of boiled DI water, followed by continuous stirring for 10 hours at 100 °C. The resulting agarose solution was with a concentration of 10.0 mg mL⁻¹.

Preparation of carrageenan (CAR) dispersion. A total of 8 g of carrageenan was dissolved in 1.0 liter of DI water, followed by continuous stirring for 10 hours at 40 °C. The resulting carrageenan solution was with a concentration of 8.0 mg mL⁻¹.

Preparation of chitosan (CHS) dispersion. A total of 10 g of chitosan was dissolved in 1.0 liter of 1.0 vol.% acetic acid solution, followed by continuous stirring for 10 hours at 60 °C. The undissolved flakes were removed through filtration, resulting in a chitosan solution with a concentration of 10.0 mg mL⁻¹.

Preparation of furfural (FFA) dispersion. A total of 15 g of furfural liquid was added into 1.0 liter of DI water followed by continuous stirring for 1 hour. The resulting furfural solution was with a concentration of 15.0 mg mL⁻¹.

Preparation of gelatin (GEL) dispersion. A total of 10 g of gelatin was dissolved in 1.0 liter of DI water. The solution was continuously stirred for 10 hours at 40 °C, resulting in a gelatin solution with a concentration of 10.0 mg mL⁻¹.

Preparation of gluten (GLU) dispersion. A total of 15 g of gluten was dissolved in 1.0 liter of 10 vol.% acetic acid solution, followed by continuous stirring for 4 hours at 60 °C. The solution was then centrifuged at 4,000 rpm for 30 minutes, and the supernatant containing gluten at approximately 10.0 mg mL⁻¹ was collected.

Preparation of pectin (PEC) dispersion. A total of 8 g of pectin was dissolved in 1.0 liter of DI water, followed by continuous stirring for 2 hours at 40 °C. The resulting pectin solution was with a concentration of 8.0 mg mL⁻¹.

Preparation of pullulan (PUL) dispersion. A total of 15 g of pullulan was dissolved in 1.0 liter of DI water, followed by continuous stirring for 10 hours at 40 °C. The resulting pullulan solution was with a concentration of 15.0 mg mL⁻¹.

Preparation of silk (SLK) dispersion. The silk dispersion was prepared following the previously reported methods.⁴⁵ Fibroin extraction began by boiling 20 g of dime-sized pieces of *Bombyx mori* cocoons in a 2-liter beaker containing 0.02 M Na₂CO₃. The mixture was boiled for 30 minutes with continuous stirring to disperse the fibroin evenly. After boiling, the fibroin was cooled, rinsed with DI water, and washed several times until the pH returned to neutral (close to 7.0). The clean fibroin was then left to dry overnight in a fume hood. Next, the dried fibroin was dissolved in a 9.3 M LiBr solution (at a ratio of 1 g dried fibroin to 4 mL LiBr solution), and this mixture was heated to 60 °C for 4 hours. Following dissolution, the solution was purified through dialysis for 2 days. Finally, the purified solution was centrifuged at 9,000 rpm and 4 °C for 20 minutes to remove any solid impurities.

Preparation of sodium alginate (ALG) dispersion. A total of 15 g of sodium alginate was dissolved in 1.0 liter of DI water, followed by continuous stirring for 10 hours at 40 °C. The resulting sodium alginate solution was with a concentration of 15.0 mg mL⁻¹.

Preparation of starch (STA) dispersion. A total of 10 g of starch was dissolved in 1.0 liter of boiled DI water, followed by continuous stirring for 10 hours at 100 °C. The resulting starch solution was with a concentration of 10.0 mg mL⁻¹.

Preparation of zein (ZIN) dispersion. A total of 15 g of zein was added to 1.0 liter of 80 vol.% ethanol solution, followed by continuous stirring for 1 hour. The resulting zein solution was with a concentration of 15.0 mg mL⁻¹.

Preparation of glycerol (GLY) solution. A total of 15 g of glycerol was added to 1.0 liter of DI water, followed by continuous stirring for 1 hour. The resulting glycerol solution was with a concentration of 15.0 mg mL⁻¹.

Preparation of lactic acid (LAC) solution. A total of 15 g of lactic acid liquid was added to 1.0 liter of DI water, followed by continuous stirring for 1 hour. The resulting lactic acid solution was with a concentration of 15.0 mg mL⁻¹.

Preparation of levulinic acid (LEV) solution. A total of 15 g of levulinic acid liquid was added to 1.0 liter of DI water, followed by continuous stirring for 1 hour. The resulting levulinic acid solution was with a concentration of 15.0 mg mL⁻¹.

Preparation of phytic acid (PHA) solution. A total of 15 g of phytic acid liquid was added to 1.0 liter of DI water, followed by continuous stirring for 1 hour. The resulting phytic acid solution was with a concentration of 15.0 mg mL⁻¹.

Preparation of sorbitol (SRB) solution. A total of 15 g of sorbitol was dissolved in 1.0 liter of DI water, followed by continuous stirring for 2 hours at 40 °C. The resulting sorbitol solution was with a concentration of 15.0 mg mL⁻¹.

Preparation of succinic acid (SUA) solution. A total of 15 g of succinic acid liquid was added to 1.0 liter of DI water, followed by continuous stirring for 1 hour. The resulting succinic acid solution was with a concentration of 15.0 mg mL⁻¹.

Preparation of xylitol (XYL) solution. A total of 15 g of xylitol was dissolved in 1.0 liter of DI water, followed by continuous stirring for 2 hours at 40 °C. The resulting xylitol solution was with a concentration of 15.0 mg mL⁻¹.

Supplementary Note 4. Justification of methodologies implemented in the multi-phase ML framework.

Supplementary Note 4 provides detailed explanations of the methodologies implemented in the multi-phase ML framework. The rationale behind each approach and its advantages over simpler or conventional methods are highlighted.

Phase 1: Defining a design space using an ANN classifier.

Unlike data-rich systems that can tolerate a higher rate of experimental failure, the fabrication of biobased nanocomposites is time-consuming and labor-intensive, particularly when the prediction model suggests infeasible formulations that result in undetachable or non-uniform films. To address this challenge, an artificial neural network (ANN) classifier is implemented as a critical screening layer during active learning loops and inverse design processes. With the ANN classifier, the navigator and prediction models can only suggest feasible formulations with a high likelihood of producing high-quality (detachable and uniform) nanocomposites, thereby reducing experimental failure.

Phase 2: Exploring the design space through active learning loops.

The preparation of biobased nanocomposites is time-intensive, often yielding a limited number of training data points for constructing an accurate prediction model. Additionally, characterizing key properties such as mechanical resilience, optical transmittance, and fire retardancy requires labor-intensive physical experiments. These challenges are further compounded by the vast design space of biobased nanocomposites, which encompasses an immense number of possible formulations, making exhaustive experimental exploration impractical.

To overcome these constraints, active learning loops are employed to strategically sample

the design space, optimizing resource allocation while improving prediction accuracy. Active learning is particularly effective in materials science, as it enables the model to identify the most informative and/or uncertain data points for experimental validation. This iterative approach enhances efficiency by prioritizing high-value experiments and minimizing less informative or redundant trials, thereby accelerating the discovery of optimized biobased nanocomposites.

As shown in **Fig. 3e**, under the constraint of 200 formulations, random and diversity sampling methods exhibited the slowest improvements in σ_u , plateauing around 100 MPa and 120 MPa, respectively. Bayesian optimization was limited with an average σ_u value around 130 MPa, likely due to the vast design space (with 23 independent parameters) and the relatively small initial dataset (40 formulations). In contrast, the active learning strategy, employing dynamic acquisition functions, consistently outperformed all other sampling methods, achieving the highest σ_u value of 157.9 MPa based on 200 samples.

Phase 3: Constructing a prediction model using data augmentation and ensemble modeling.

Data augmentation complements active learning by addressing data scarcity and reducing the risk of model overfitting, particularly in small or incomplete datasets. Techniques such as the User Input Principle (UIP) method generate virtual data points that emulate realistic variations observed in wet-lab experiments. By integrating both real and synthetic data, the prediction model strengthens its ability to generalize formulation–property correlations, ultimately improving predictive accuracy.

Ensemble modeling further enhances prediction performance by integrating multiple model variants into a single committee. One key advantage is its ability to mitigate overfitting by preventing any single model from dominating predictions, thereby reducing bias. Additionally, by aggregating outputs from multiple models, ensemble modeling improves generalizability, yielding

more reliable results across diverse formulations. Moreover, the prediction variance among model variants serves as an intrinsic measure of uncertainty, enabling a quantitative confidence assessment of each prediction. This variance calculation facilitates informed decision-making, optimizes experimental resources, and systematically refines the exploration of the design space.

As shown in **Fig. 3d**, the prediction model utilizing a single ANN framework exhibited a high MRE of 67.38% after active learning loops. In comparison, the prediction model (consisting of an ensemble committee of ANNs) demonstrated a lower MRE of 46.10% after active learning loops, clearly demonstrating the necessity of ensemble modeling for such a small dataset. After data augmentation, the model prediction accuracy significantly improved to 17.54%.

Phase 4: Discovering optimal biobased nanocomposite films through cluster analyses.

Once constructed, the prediction model executes various sampling strategies – including random, uniform, and distance sampling – to explore different formulations within the design space and predict their property labels. In this study, the prediction model samples and predicts over 1 billion formulations, forecasting their optical, mechanical, and fire-retardant properties. Subsequently, cluster analysis is applied to identify distinct formulation clusters that achieve the target properties. This approach facilitates the discovery of diverse sets of formulations that meet the desired performance criteria, providing flexibility in the development of biobased packaging films.

Supplementary Note 5. Sampling strategies to collect training data points for an ANN classifier.

In the initial stage of collecting training data for an ANN classifier, a diversity sampling strategy was implemented. This approach optimized the sampling process by maximizing the Euclidean distance between nearest-neighbor formulation pairs, ensuring a diverse and representative distribution of training data points. A Monte Carlo-based optimization procedure was employed, and the procedure began by generating an initial set of N ($N = 30$) different formulations, with each formulation assigned a score (S) based on **Equation S2**,

$$S = \min_{1 \leq i < j \leq N} \sqrt{\sum_{k=1}^M (C_{ik} - C_{jk})^2} \quad (\text{S2})$$

, where M is the number of components in the materials library (i.e., $M = 23$), C_{ik} or C_{jk} is the loading of component k in formulation i or j . In each iteration, a new set of N formulations was generated through random sampling, and their respective scores (S') are computed using the same equation. If S' exceeds S , the newly generated formulations replace the previous ones. This iterative approach ensured that selected formulations remained uniformly distributed and well-separated, optimizing diversity in experimental sampling. Additionally, the Monte Carlo-based optimization process incorporated several constraints, such as limiting the number of components per formulation and excluding those beyond the operational capabilities of the OT-2 robot, enhancing the viability of experimental execution.

The open source code to implement the diversity sampling strategy in Python is provided in **GitHub** (https://github.com/chentl/biopackaging/blob/master/design_boundary.ipynb).

In the second stage of collecting training data points to enhance the accuracy of the ANN classifier, an uncertainty sampling approach was employed. This method prioritized data points

with the highest prediction variance within an ensemble of ANNs, ensuring that the most uncertain data points were selected for model refinement. A Monte Carlo-based optimization procedure was employed, and the procedure began by generating an initial set of N different formulations, with each formulation assigned a score (V) based on **Equation S3**,

$$V = \min_{1 \leq i < j \leq N} \sqrt{\sum_{k=1}^M (C_{ik} - C_{jk})^2 \cdot \sum_{i=1}^N Var(i)} \quad (S3)$$

, where M is the number of components in the materials library (i.e., $M = 23$), C_{ik} or C_{jk} is the loading of component k in formulation i or j , $Var(i)$ is the prediction variance of formulation i by the model committee. In each iteration, a new set of N ($N = 30$) formulations was generated through random sampling, and their respective scores (V') were computed using the same equation. If V' exceeded V , the newly generated formulations replaced the previous ones. This iterative approach ensured that the selected formulations exhibited high prediction variance across ANN models, improving model robustness. Additionally, the Monte Carlo-based optimization process incorporated several constraints, such as limiting the number of components per formulation and excluding those beyond the operational capabilities of the OT-2 robot, enhancing the viability of experimental execution.

The open source code to implement the variance sampling strategy in Python is provided in **GitHub** (https://github.com/chentl/biopackaging/blob/master/design_boundary_variance.ipynb).

Supplementary Note 6. Training an ANN classifier to define a design space.

To ensure that the prediction model recommended formulations that produced detachable and uniform biobased nanocomposites, an ANN classifier was trained to categorize formulations as either feasible or infeasible. The development of the ANN classifier involved three key steps: (1) designing an ANN architecture, (2) optimizing ANN hyperparameters, and (3) forming an ensemble of top-performing ANN variants.

First, the ANN classifier featured an encoder with 24–48 fully connected layers, activated by Exponential Linear Unit (ELU) functions, which progressively reduced feature dimensions from input to output. A final Sigmoid layer constrained the output within the 0–1 range for binary classification. Second, hyperparameters – including the number of hidden layers, node count per layer, batch size, learning rate, and regularization rate – were fine-tuned using 5-fold cross-validation. Third, an ensemble of ANN models was trained on 2,120 data points using the four best-performing hyperparameter sets.

After the ANN classifier was constructed, its prediction accuracy was evaluated using a testing dataset. As shown in **Supplementary Table 3**, a total of 180 formulations were randomly selected, and 180 nanocomposite films were fabricated following the established procedure. Film detachment and surface uniformity evaluations were performed to classify the nanocomposite films as feasible or infeasible. The formulation labels were then input into the ANN classifier, and the predicted feasibility results were compared with experimental data from the 180 nanocomposite films. In this study, the ANN classifier accurately predicted the feasibility of 31 samples out of 180, resulting in a prediction accuracy of 17.5%.

The open source code to train an ANN classifier in Python is provided in **GitHub** (https://github.com/chentl/biopackaging/blob/master/design_boundary_model.ipynb).

Supplementary Note 7. Construction of a dimensionality reduction visualization map.

A dimensionality reduction visualization map was generated from the ANN classifier by extracting outputs from the penultimate hidden layer (i.e., the second-to-last hidden layer) of the ANN classifier. This approach effectively projected high-dimensional input data into a two-dimensional latent space, providing a clearer visual representation of formulation feasibility. In this visualization map, feasible and infeasible nanocomposites formed distinct clusters, defining the boundaries of a design space, which contained formulations predicted to yield high-quality (detachable and uniform) nanocomposite films.

The open source code to construct a dimensionality reduction visualization map in Python is provided in **GitHub** (https://github.com/chentl/biopackaging/blob/master/design_boundary_model.ipynb).

Supplementary Note 8. Implementation of UIP method.

To mitigate the risk of model overfitting due to a small dataset, the UIP method was utilized for data augmentation, following expert guidelines. First, this approach evaluated stability in property labels for biobased nanocomposites, in response to minor fluctuations in composition ratios. For instance, as shown in **Supplementary Fig. 8**, property labels remained consistent when the MMT/CMC/GEL/PUL/PHA ratio was adjusted from 66.2/14.0/13.3/5.5/1.0 to 67.7/13.0/14.6/4.0/0.7. Second, this approach assessed the measurement inconsistencies in property labels for biobased nanocomposites. For instance, **Supplementary Fig. 9** demonstrated that, despite identical formulation labels, nanocomposite replicates exhibited 10%–20% variations in property labels due to measurement inconsistencies. Using the UIP method, the dataset was expanded from 343 experimental data points to 343,00 virtual data points by applying Gaussian noise to both formulation and property labels, effectively enriching the dataset and enhancing model robustness.

The open source code to implement the UIP method in Python is provided in **GitHub** (https://github.com/chentl/biopackaging/blob/master/data_augmentation.ipynb).

Supplementary Note 9. SHapley Additive exPlanations (SHAP)

The SHAP analysis is a game theoretic approach to explain the output of any ML model (including the ensemble models). It can find the feature of importance inside the ML models, thus enabling the users to interpret the models. The process to find the feature importance is like finding the contribution of each player in a collaborative game.

To understand how the feature importance is found in SHAP, an example is presented below. As shown in **Supplementary Fig. 11**, there are three game players (i.e., A, B, and C). They collaborate with each other to play a game. When all of them join the game, based on their different skills in a specific game (e.g., 8, 3, and 3 for players A, B, and C.), they can achieve a 100 reward. The task is to quantify how important each player is in getting the reward. To solve this, we assume that the game players join in a specific sequence, (e.g., player A first, then player B, next player C) and the marginal rewards of each player are recorded. For example, player A is the first member with a reward of 40, then player B joins the game and brings the reward to 80, and next player C joins to bring the reward to 100. Therefore, the players' respective marginal rewards are "player A, B, C = 40, 40, 20". However, the calculated marginal reward may not accurately represent the contribution of each player. For example, when the sequence is changed from player A, B, C to player A, C, B, if players B and C have a similar skill set, the rewards are still 40, 40, and 20. Then the players' respective marginal rewards are changed to "player A, B, C = 40, 20, 40". Therefore, the sequence of how the players join the game is important.

To get a more accurate reward of each individual player, we need to find out the marginal reward of each player under every possible sequence. The reward for each individual player then can be the sum of these marginal rewards over the number of possible sequences (the calculation for a specific player is illustrated in **Equation S4**. For example, in the case outlined above, we can

simulate the entering sequences: ABC, ACB, BCA, BAC, CAB, and CBA, and the marginal reward of each player is recorded for each sequence. Then, by averaging all of these rewards, we obtain the reward contribution from each player. This reward is SHAP value.

$$\text{SHAP value of a player} = \frac{\text{Sum of mariginal rewards of a specific player under all possible sequences}}{\text{Number of total possible sequences}} \quad (\text{S4})$$

Back to the feature importance analysis of the developed prediction model, we can take the problem as an analogy to the above case. 23 natural/GRAS components are regarded as players, which are fed into the prediction model to obtain the property labels. The prediction process is treated as the game, and the deviation (between the predicted property label of a specific data point and the average property label from all data points) is treated as the reward. The SHAP value of each component loading on a specific property label can be calculated, and this value is used to measure the feature importance.

$$\text{SHAP value of a component loading} = \frac{\text{Sum of mariginal reward of a component loading on a specific property label under all possible sequences}}{\text{Number of total possible sequences}} \quad (\text{S5})$$

The above process is the interpretation of the prediction model on a specific data point which is called the local interpretation. To get the global interpretation of the prediction model over all data points, we can plot the SHAP values of every composition or component loading for every data point. A wider range of the SHAP value for a specific feature indicates a higher importance, and *vice versa*.

The open-source code to implement the SHAP model interpretation in Python is provided in **GitHub** (<https://github.com/chentl/biopackaging/blob/master/shap.ipynb>).

Supplementary Note 10. Comparison of active learning strategy with various sampling methods.

The objective was to assess the effectiveness of different sampling strategies in identifying formulations with high σ_u values. A high-accuracy prediction model functioned as an independent oracle, generating model-predicted σ_u values to evaluate sampling performance. Four distinct sampling methods were employed:

1. Random sampling – Selected formulations without systematic bias.
2. Diversity sampling – Prioritized formulations that were widely spaced within the design space using Euclidean distance metrics.
3. Bayesian optimization – Utilized a Gaussian Process model with a Probability of Improvement acquisition function, selecting formulations sequentially. Initial exploration began with 40 randomly chosen samples.
4. Active learning strategy – Integrated diversity sampling for the first two batches, followed by a performance optimization approach in subsequent batches.

Each method sampled up to 200 formulations per iteration, with a total of 256 iterations performed using varying initial random seeds to ensure a fair and robust performance assessment. As shown in **Fig. 3e**, the solid curves represent the average σ_u values across 256 iterations, while the shaded regions indicate the 95% confidence interval. The active learning strategy demonstrated superior performance, maximizing the predicted σ_u value to be 157.9 MPa. This approach effectively balanced broad exploration in early stages with refined property optimization in later stages, overcoming the limitations of other methods in navigating the complex, high-dimensional design space.

The open source code to implement the comparison of various sampling methods in Python is provided in **GitHub** (https://github.com/chentl/biopackaging/blob/master/sampling_methods.ipynb).

Supplementary Note 11. Working mechanism of cluster analysis.

In this study, the Density-Based Spatial Clustering of Applications with Noise (DBSCAN) algorithm was used to identify clusters within the design space that met targeted property requirements. The central concept of DBSCAN was core samples, which referred to formulations located in high-density regions. Two key parameters governed the DBSCAN algorithm:

1. *min_samples* – The minimum number of points required to form a cluster.
2. *eps* – The maximum distance between two samples for them to be considered neighbors.

A higher *min_samples* value or a lower *eps* value increased the density requirement for cluster formation. In this study, *min_samples* was set to 20, and *eps* was set to 0.15. The *eps* parameter played a critical role in defining the local neighborhood of data points. If *eps* was too small, most data points remained unclustered. Conversely, if *eps* was too large, closely spaced clusters merged into a single cluster, and in extreme cases, the entire dataset was treated as a single cluster.

The open source code to implement clustering analyses in Python is provided in **GitHub** (https://github.com/chentl/biopackaging/blob/master/reverse_design.ipynb).

Supplementary Note 12. Life Cycle Assessment (LCA) study methodology.

The LCA studies compared the environmental impact of manufacturing conventional plastic packaging and biobased packaging films (e.g., chitosan- and cellulose-rich films). Conventional packaging plastics – LDPE, HDPE, and PVC – were used to compare with chitosan-rich (CHS/XYL/GEL/LAC/AGR ratio = 59.0/20.0/12.0/5.0/4.0 wt.%) and cellulose-rich films (CNF/GLY/CMC/CAR ratio = 36.0/39.0/16.0/9.0 wt.%).

The LCA studies were conducted using SimaPro software (PhD with Share and Collect, release 9.5.0.2) by PRé sustainability, Amersfoort, the Netherlands⁴⁶. The Ecoinvent (version 3.9.1, USLCI, updated Sept. 2015)⁴⁷ and DATASMART LCI (Version 2023.1)⁴⁸ databases were implemented for model construction. USLCI and DATASMART LCI are North America focused datasets. Improved data quality was achieved by applying Ecoinvent ‘ROW’ (Rest of World) or ‘Global’ entries where possible. TRACI (Version 2.1 V1.08 / US 2008, Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts)⁴⁹ was employed as a midpoint-oriented LCA methodology, using the US average values. It was applied to evaluate the environmental impacts of conventional plastic materials and components in biobased packaging films. The evaluations followed the International Standard Organization (ISO) 14040 and 14044 guidelines⁵⁰. A functional unit of 1 kg weight of conventional packaging plastics and biobased packaging films was considered under a cradle-to-gate approach, enabling a direct comparison of their environmental impacts.

Inventory Analysis

Life cycle inventories (LCI) for conventional plastics and biobased packaging films were collected from the literature and published reports. Inputs for LDPE⁵¹, HDPE⁵², and PVC⁵³ are summarized

in **Supplementary Table 8**, while inventories for biobased packaging films are compiled in **Supplementary Table 10 to Supplementary Table 18**. Data unavailable in the SimaPro database was obtained from the literature and published reports, including:

- Chitosan from chitin⁵⁴ (**Supplementary Table 11**)
- Chitin from crab shells⁵⁴ (**Supplementary Table 12**)
- Crab shell processing⁵⁴ (**Supplementary Table 13**)
- Agarose production⁵⁵ (**Supplementary Table 14**)
- Gelatin production⁵⁶ (**Supplementary Table 15**)
- Xylitol production⁵⁷ (**Supplementary Table 16**)
- Carrageenan production⁵⁸ (**Supplementary Table 18**)

For the other components not summarized in these tables, such as lactic acid, cellulose nanofiber, sodium carboxymethyl cellulose, and glycerol, data are provided in the SimaPro database.

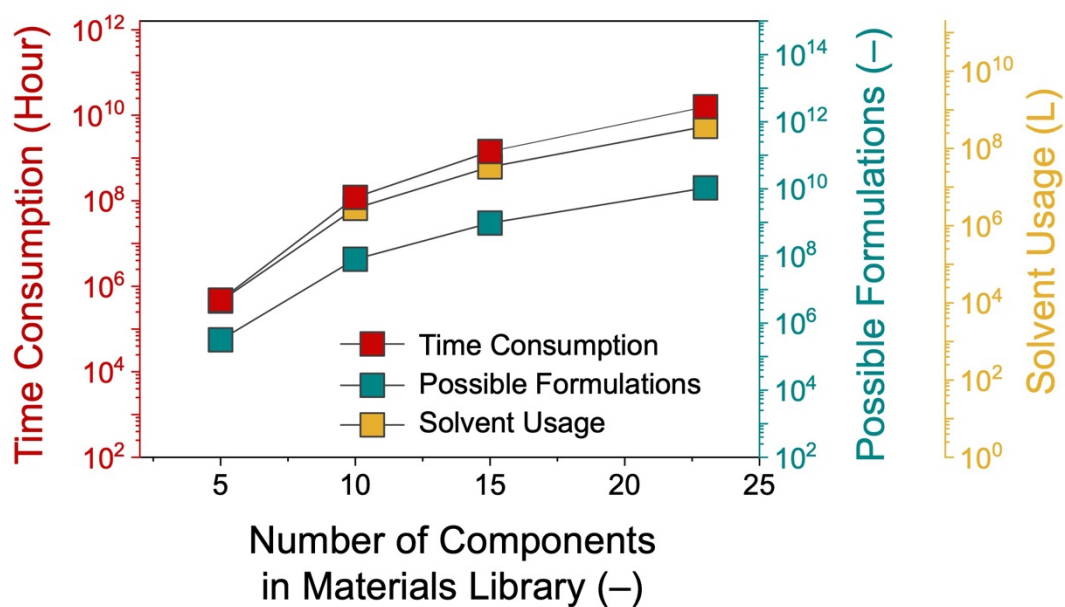
Impact Assessment

The following environmental impact indicators were considered in this study:

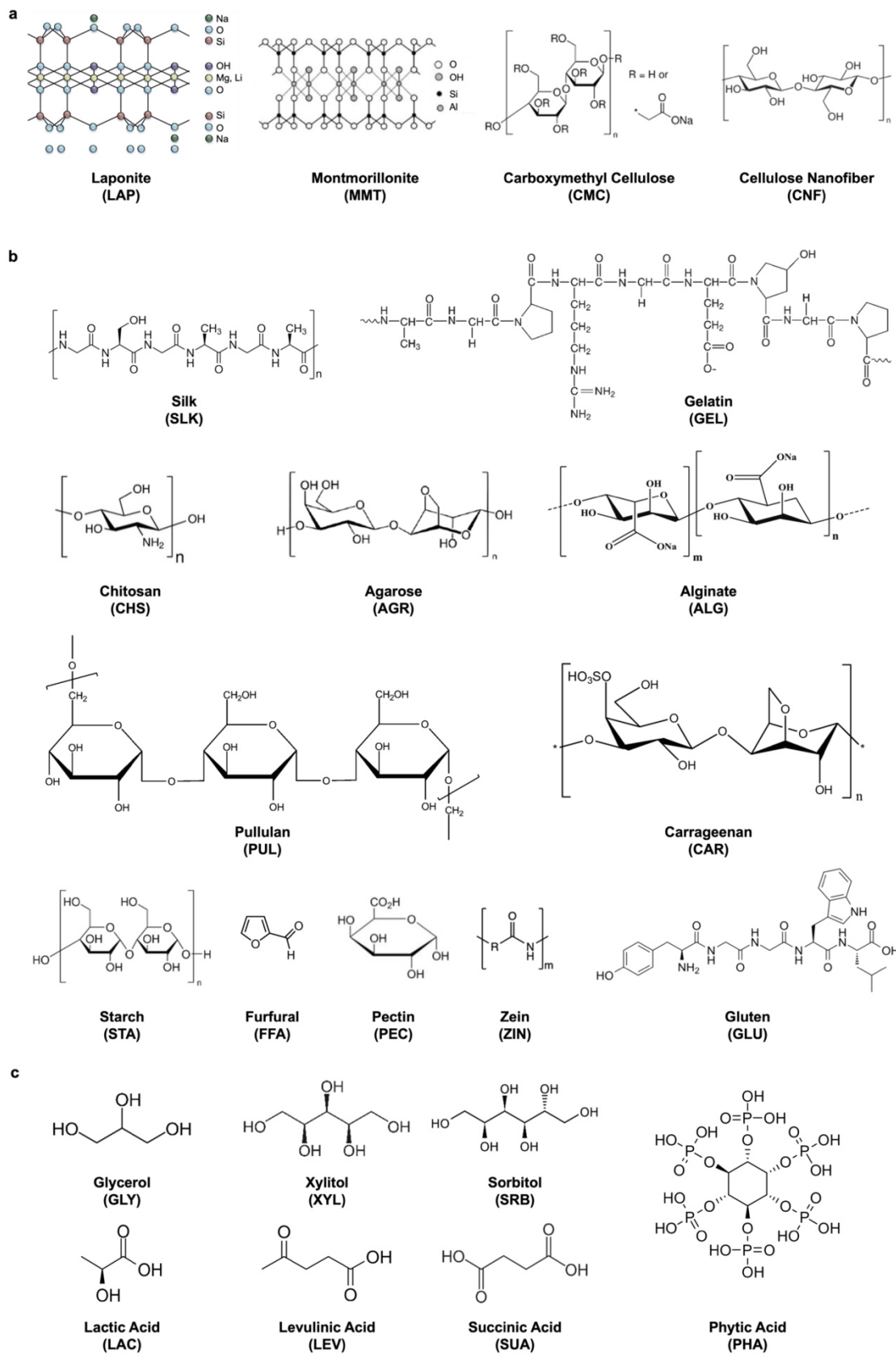
- Fossil fuel depletion (MJ surplus, additional energy gain)
- Global warming (kg CO₂ eq)
- Smog (kg O₃ eq)
- Acidification (kg SO₂ eq)
- Eutrophication (kg N eq, kilograms of nitrogen equivalents)
- Carcinogenics (CTUh, comparative toxicity unit for human health)
- Non-carcinogenics (CTUh)
- Respiratory effects (kg PM_{2.5} eq, particulate matter 2.5 equivalents)

- Ecotoxicity (CTUe, comparative toxicity unit for ecotoxicity)
- Ozone depletion (kg CFC-11 eq, CFC-11 (trichlorofluoromethane) equivalents)

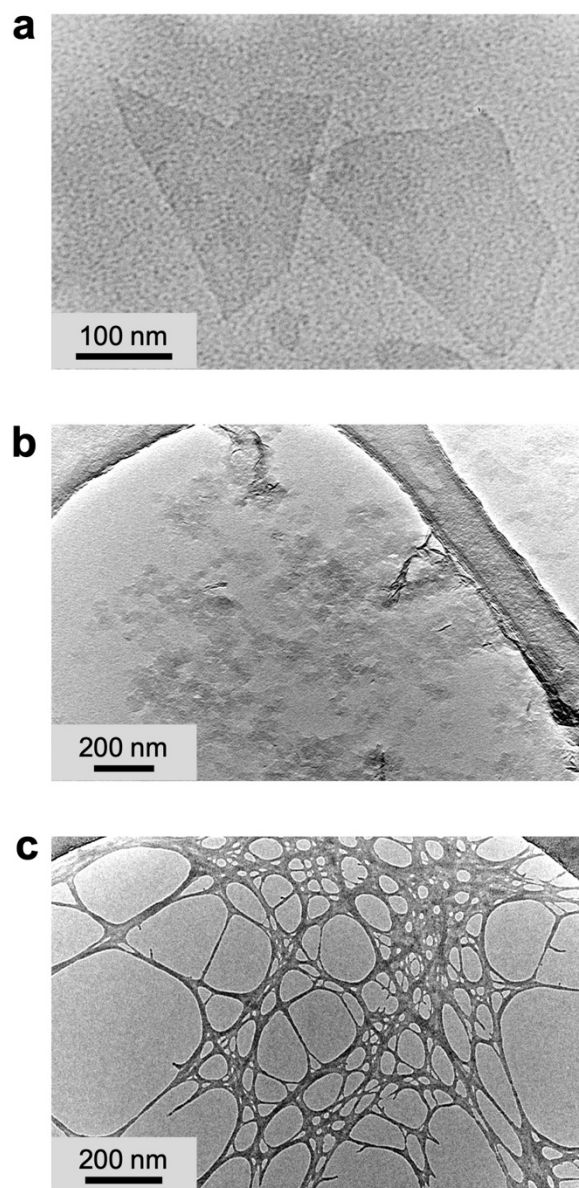
These indicators assess the environmental burdens associated with the manufacturing processes of conventional plastics and biobased packaging films. The calculated values are summarized in **Supplementary Table 19**.



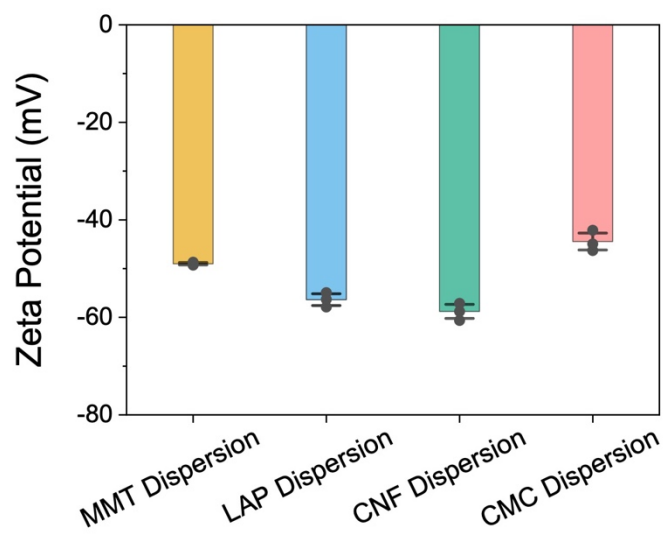
Supplementary Fig. 1. Estimation of time consumption, possible formulations, and solvent usage for fabricating nanocomposite films using varying numbers of components in the materials library. The calculations are based on the assumptions of 30 minutes per experiment, 8 working hours per day, and 35 ml solvent per experiment.



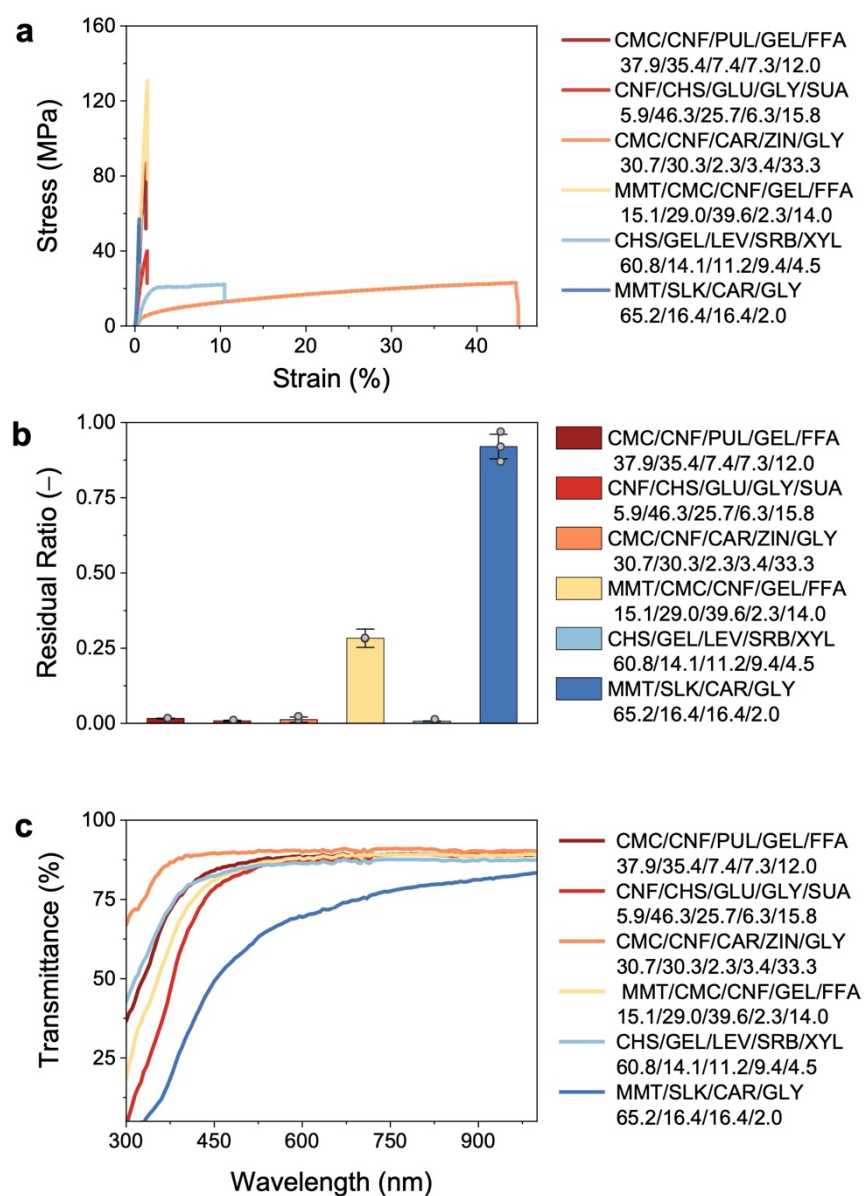
Supplementary Fig. 2. Chemical structures of 23 natural and/or GRAS components. **(a)** 4 low-dimensional materials (LDMs), **(b)** 12 biopolymers, and **(c)** 7 additives.



Supplementary Fig. 3. TEM images of **(a)** MMT nanosheets, **(b)** LAP nanosheets, and **(c)** CNFs.

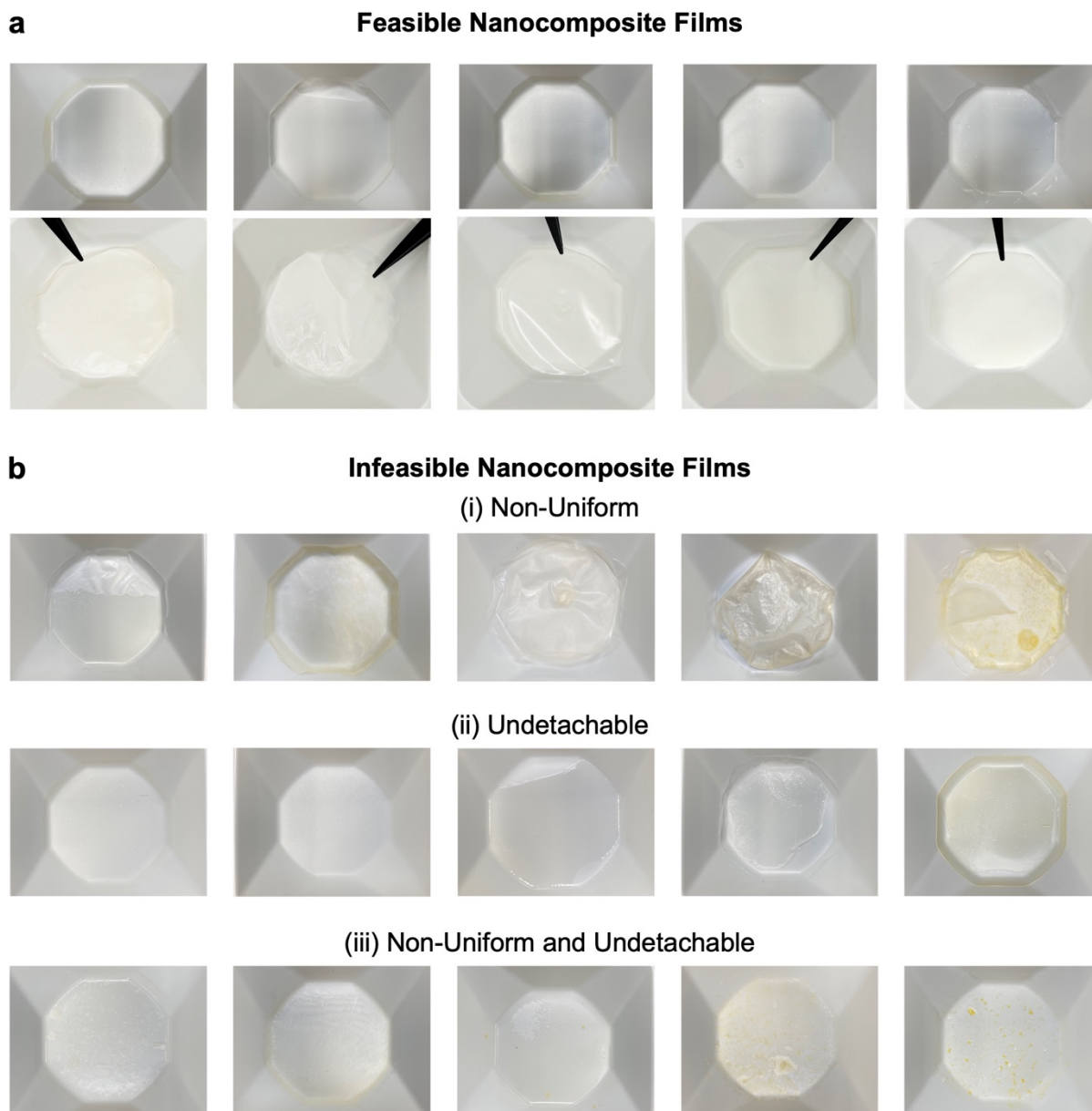


Supplementary Fig. 4. Zeta potentials of MMT, LAP, CNF, and CMC dispersions after three months of storage at 4 °C.

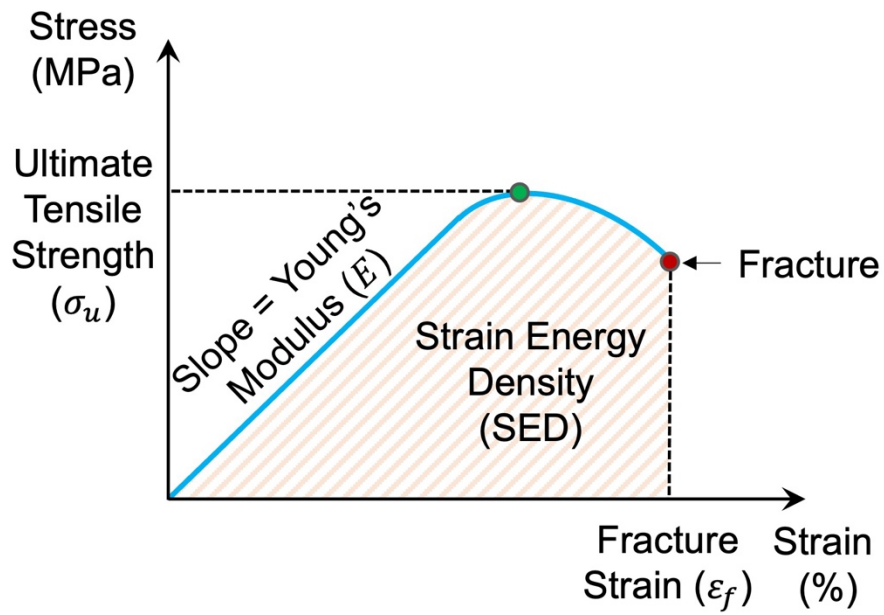


Supplementary Fig. 5. Composition-dependent physicochemical properties of biobased nanocomposite films. (a) Mechanical, (b) fire-retardant and (c) optical properties of biobased nanocomposite films with four different formulations, including CMC/CNF/PUL/GEL/FFA = 37.9/35.4/7.4/7.3/12.0; CNF/CHS/GLU/GLY/SUA = 5.9/46.3/25.7/6.3/15.8; CMC/CNF/CAR/ZIN/GLY = 30.7/30.3/2.3/3.4/33.3; MMT/CMC/CNF/GEL/FFA =

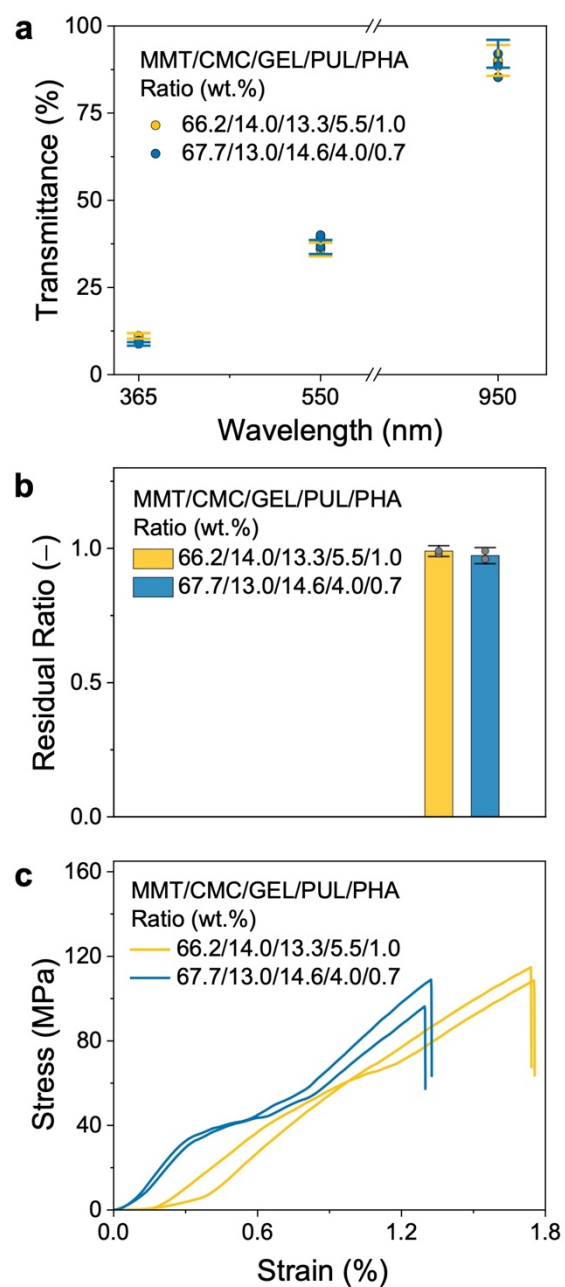
15.1/29.0/39.6/2.3/14.0; CHS/GEL/LEV/SRB/XYL = 60.8/14.1/11.2/9.4/4.5;
 MMT/SLK/CAR/GLY = 65.2/16.4/16.4/2.0.



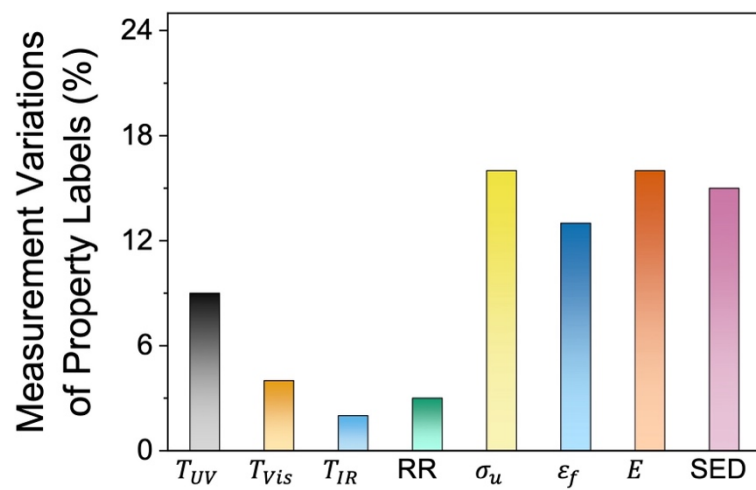
Supplementary Fig. 6. Representative digital photos of (a) feasible and (b) infeasible nanocomposite films.



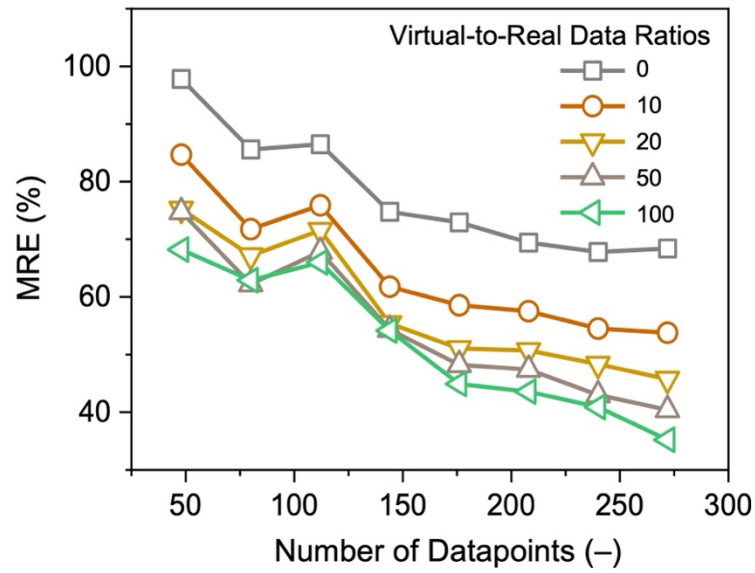
Supplementary Fig. 7. Mechanical label definition of ultimate tensile strength (σ_u), fracture strain (ϵ_f), Young's modulus (E), and strain energy density (SED) from stress–strain curves.



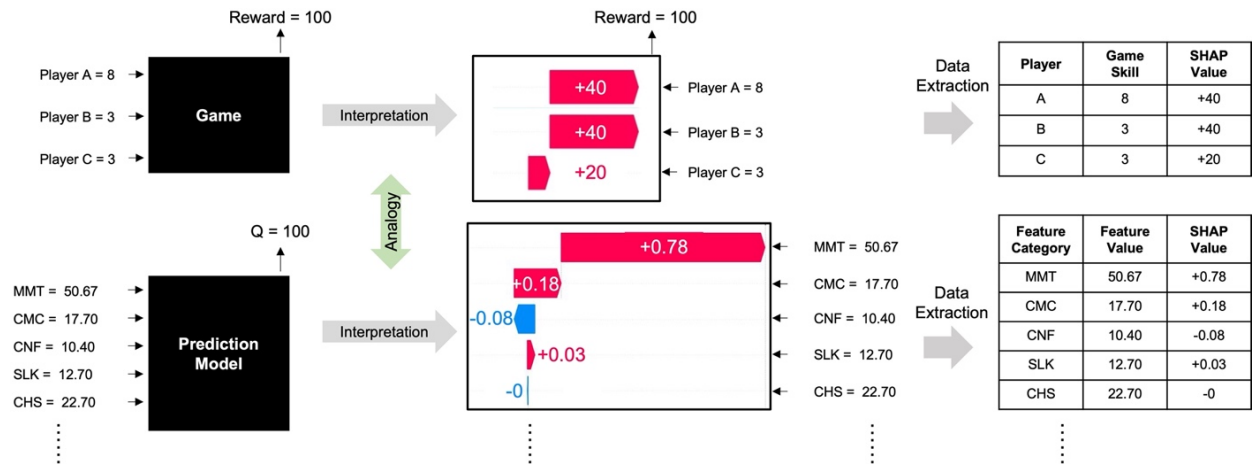
Supplementary Fig. 8. Minor formulation adjustments caused similar (a) spectral, (b) fire-retardant, and (c) mechanical properties. The MMT/CMC/GEL/PUL/PHA ratio changed slightly from 66.2/14.0/13.3/5.5/1.0 to 67.7/13.0/14.6/4.0/0.7.



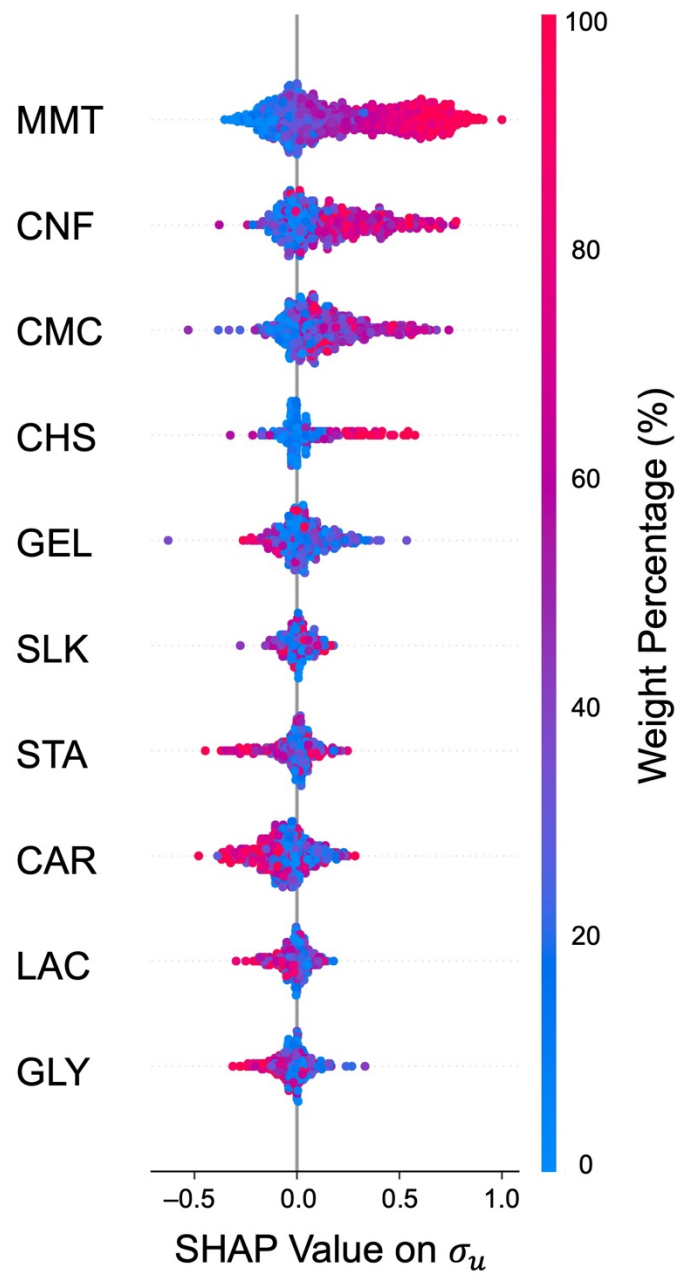
Supplementary Fig. 9. Measurement inconsistency and variations for spectral, fire-retardant, mechanical properties.



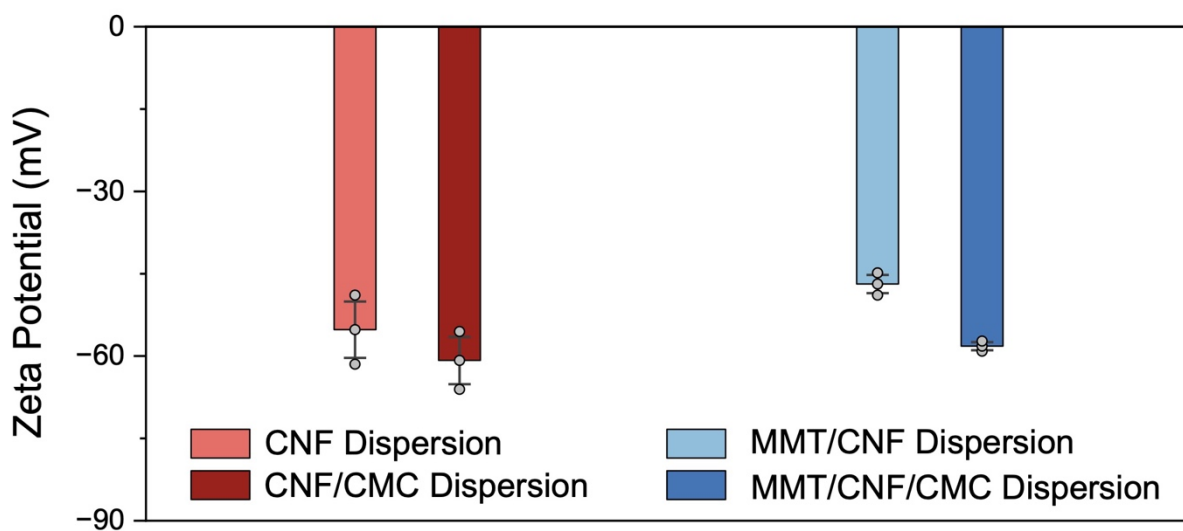
Supplementary Fig. 10. MRE values of prediction models trained with different virtual-to-real data ratios.



Supplementary Fig. 11. Working mechanism of SHapley Additive exPlanations (SHAP).

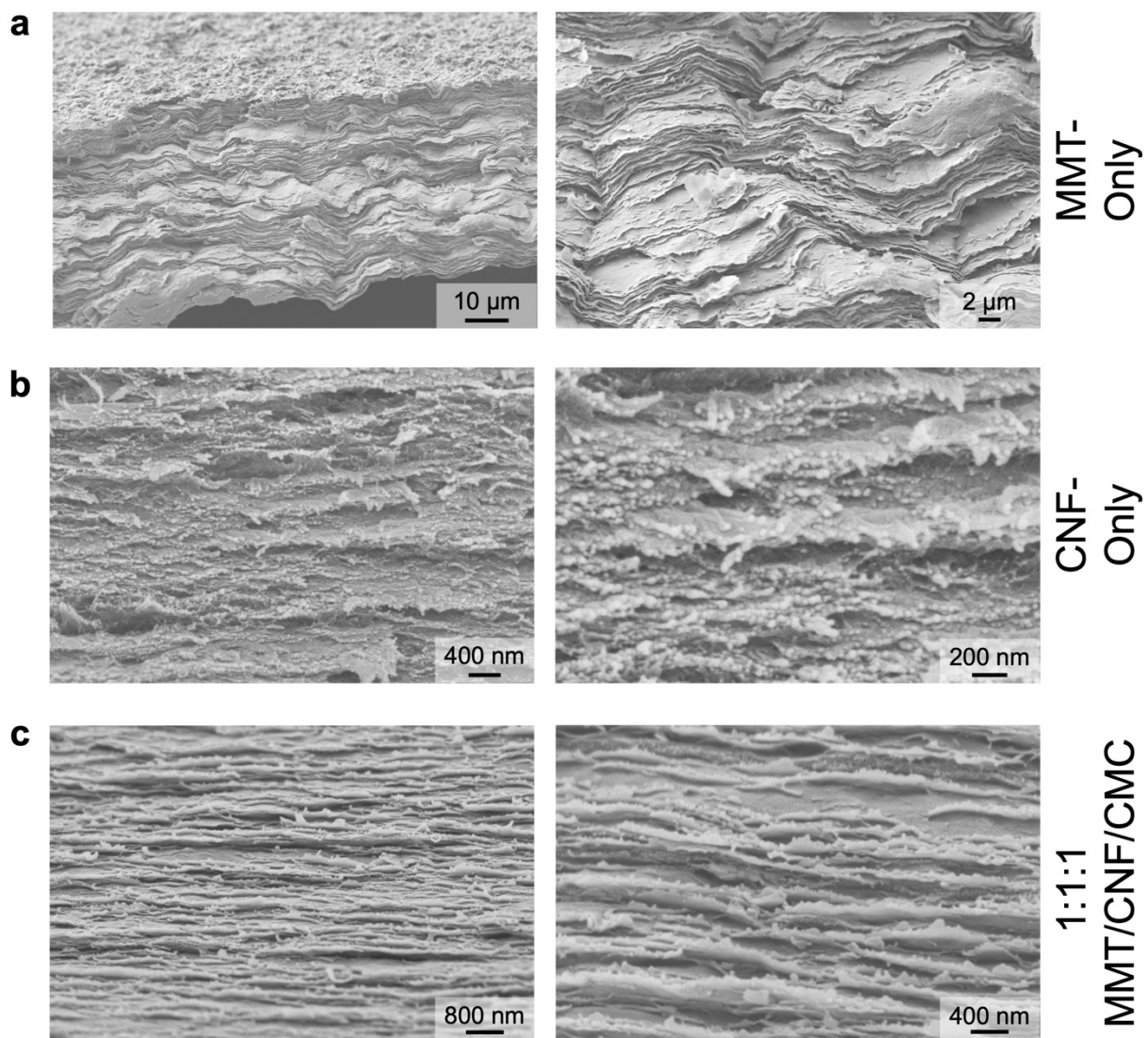


Supplementary Fig. 12. Normalized SHAP values of top 10 components contributing to the σ_u of biobased nanocomposites.

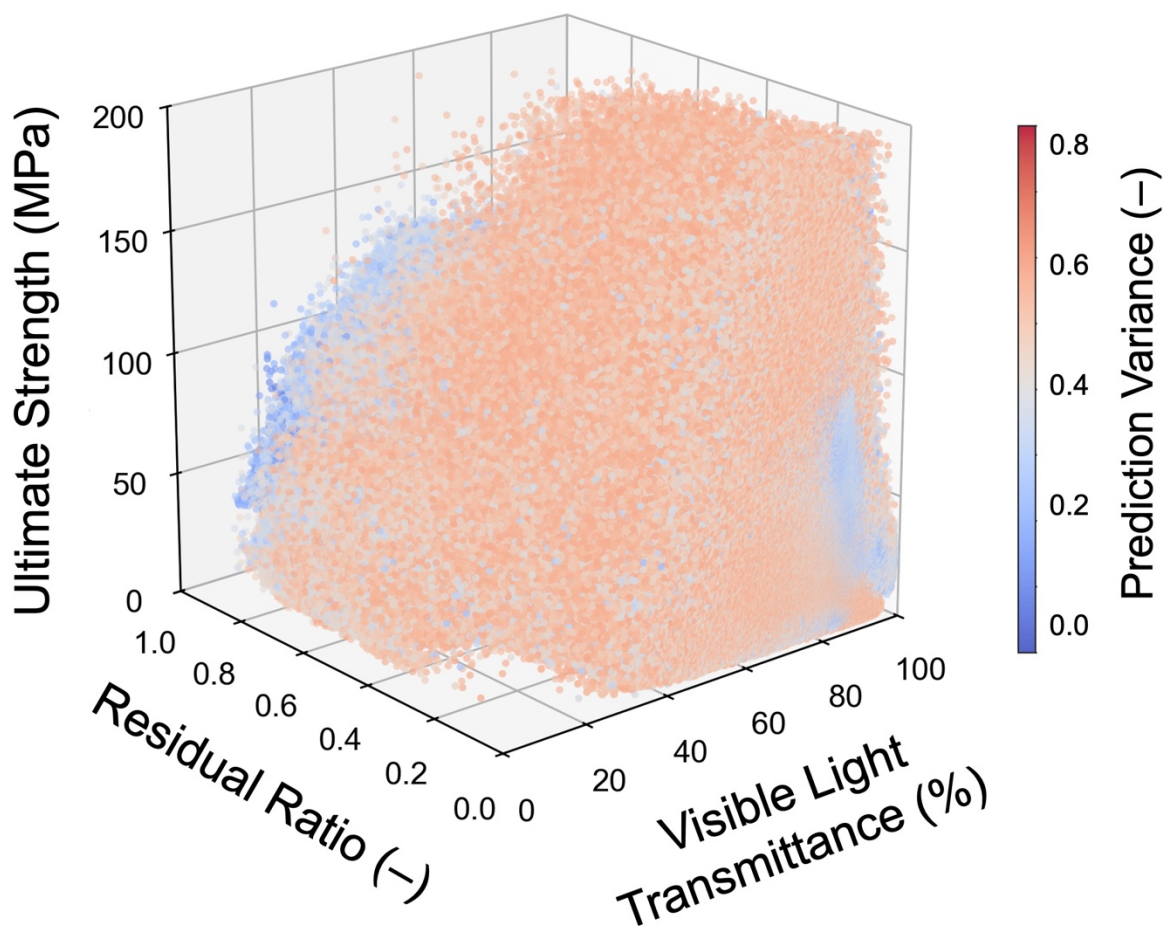


Supplementary Fig. 13. Zeta potentials of CNF, CNF/CMC, and MMT/CNF/CMC dispersions.

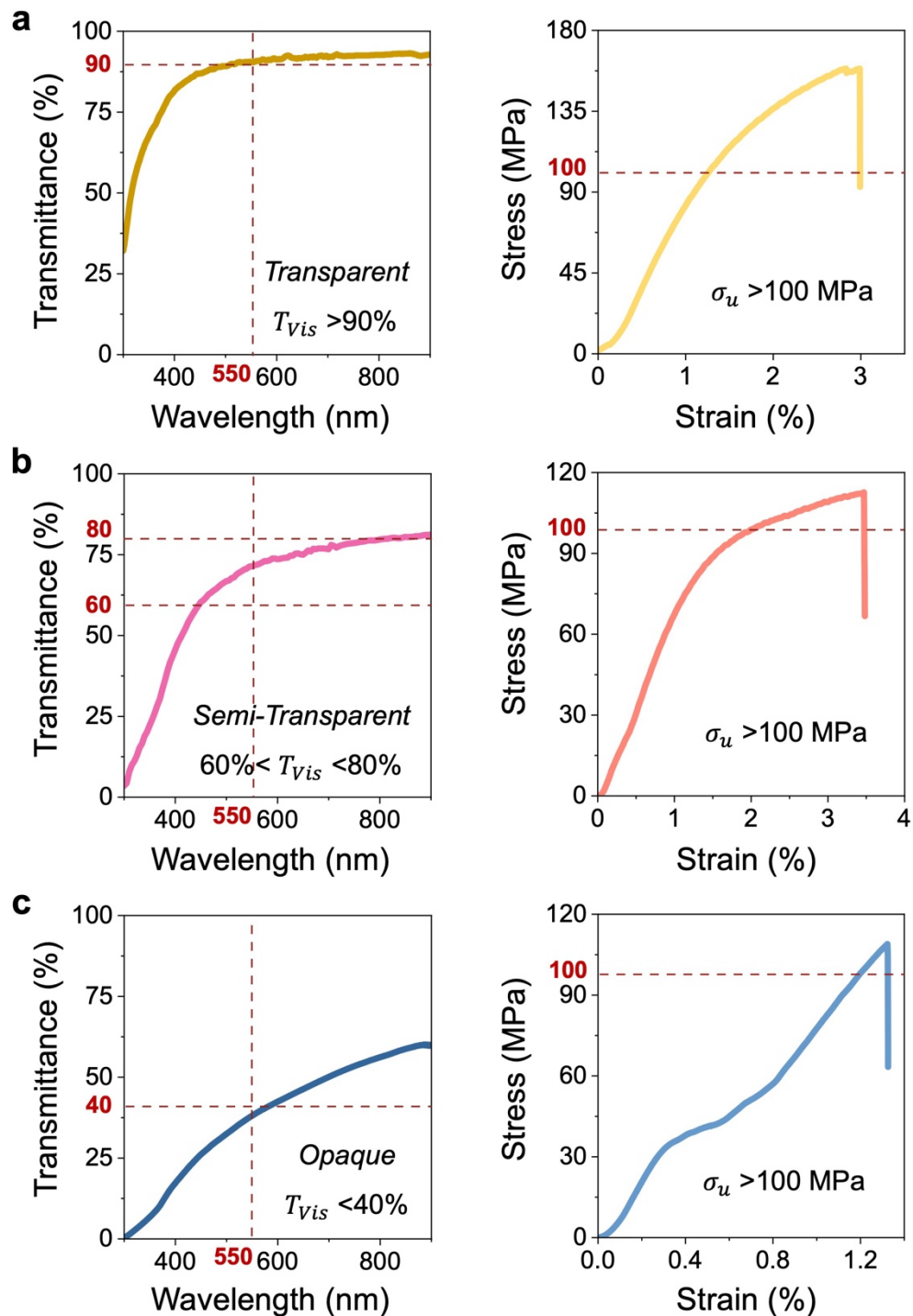
The CNF/CMC dispersion was prepared at a 1:1 ratio, while the MMT/CNF/CMC dispersion was mixed at a 1:1:1 ratio.



Supplementary Fig. 14. SEM images of the fracture surfaces of (a) MMT-only, (b) CNF-only, and (c) 1:1:1 MMT/CNF/CMC films.

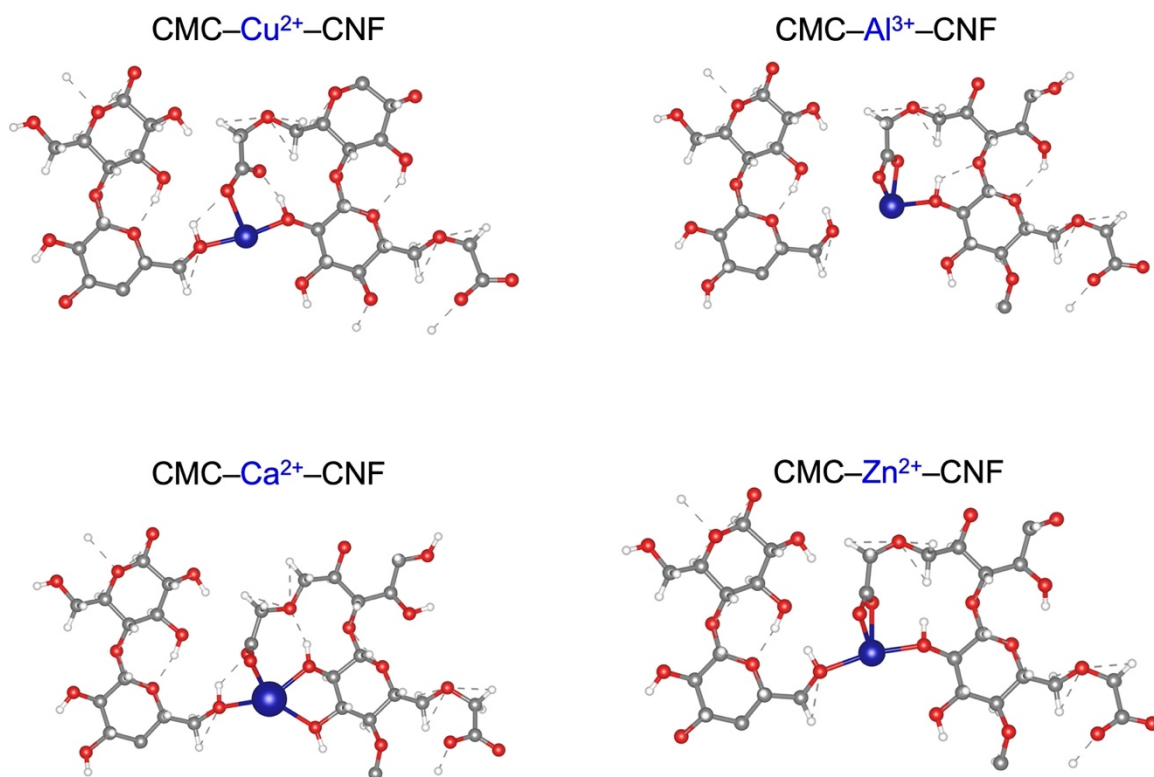


Supplementary Fig. 15. A 3D heatmap visualizes the predicted T_{Vis} , σ_u , and RR labels of ~ 1 billion formulations of biobased nanocomposites. The color gradient represents the prediction variance within the model committee, with red colors indicating higher prediction variance and blue colors indicating lower variance.

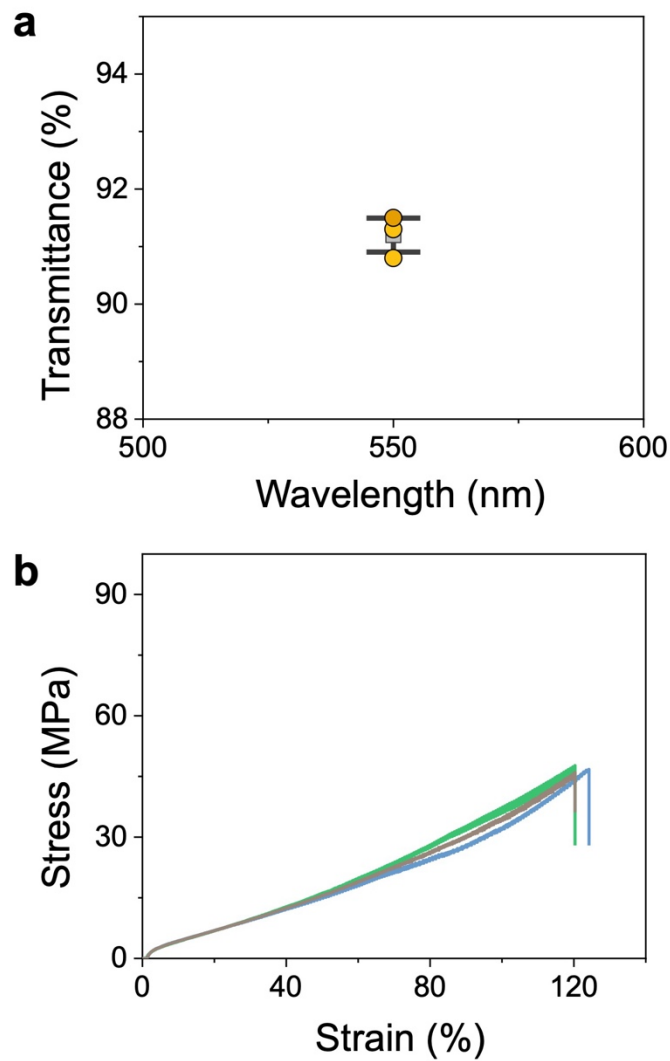


Supplementary Fig. 16. Optical and mechanical properties of biobased nanocomposites with high σ_u and tunable T_{Vis} , suggested by the prediction model. (a) MMT/CMC/CNF/GEL/LEV ratio of 10.5/30.9/22.5/19.7/16.4 for high σ_u and T_{Vis} , (b) MMT/CMC/PUL/GLU/GLY ratio of

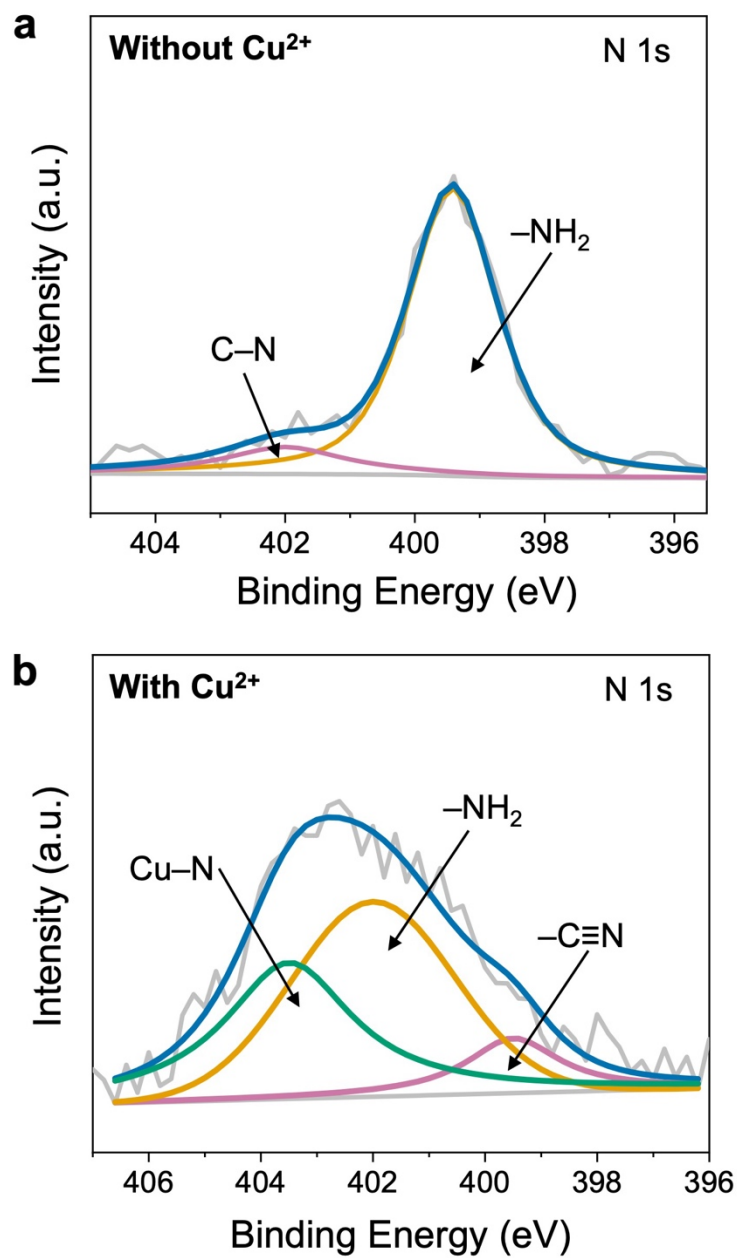
64.4/20.1/3.8/3.2/8.5 for high σ_u and medium T_{vis} , (c) MMT/CNF/GEL/SRB/XYL ratio of 67.7/8.6/21.0/1.2/1.5 for high σ_u and low T_{vis} .



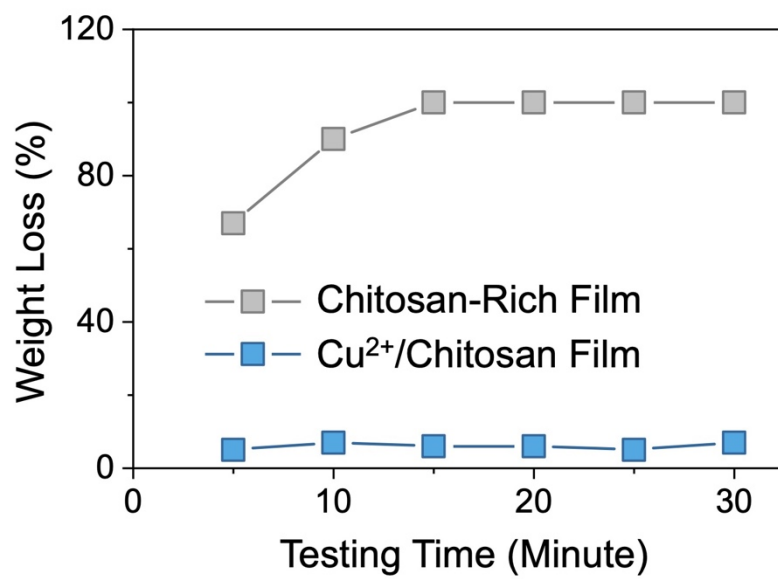
Supplementary Fig. 17. Chemical structures of Cu^{2+} , Al^{3+} , Ca^{2+} , and Zn^{2+} interacting within CMC/CNF matrices.



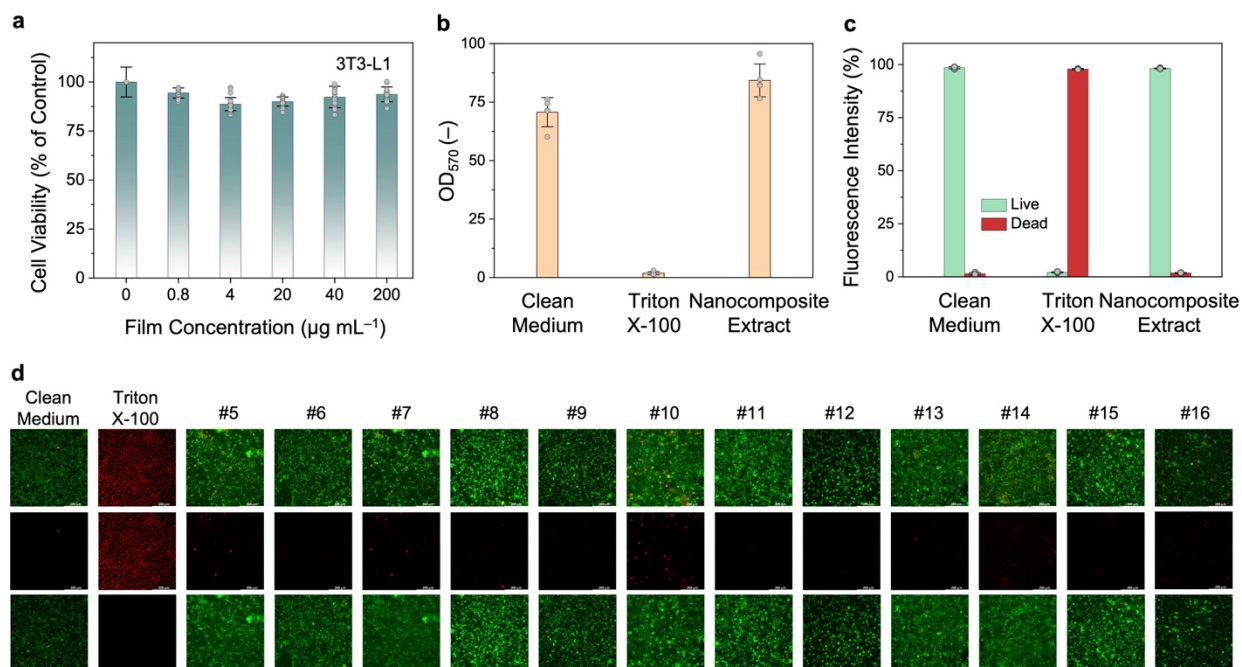
Supplementary Fig. 18. Experimental validated (a) T_{Vis} values and (b) stress–strain curves of a chitosan-rich film, following the model-suggested formulation with a CHS/XYL/GEL/LAC/AGR ratio of 59.0/20.0/12.0/5.0/4.0 wt.%.



Supplementary Fig. 19. N 1s XPS spectra of chitosan-rich films (a) before and (b) after Cu²⁺ incorporation.



Supplementary Fig. 20. Hydrostability evaluation of Cu²⁺/chitosan films. The weight losses of a chitosan-rich film and a Cu²⁺/chitosan film were measured by soaking them in a 1.0 wt.% acetic acid solution under vigorous stirring for 30 minutes at room temperature, during which the structural integrity was assessed to determine their hydrostability.



Supplementary Fig. 21. Cytotoxicity and biocompatibility of biobased nanocomposite films. **(a)** Cytotoxicity tests of Cu^{2+} /chitosan films using 3T3-L1 cells. **(b)** Representative OD_{570} values, **(c)** fluorescence intensity measurements, and **(d)** live/dead cell viability assays on L929 cells using clean culture medium as a positive control, Triton X-100 as a negative control, and extracts from 12 biobased nanocomposites. The formulations of these biobased nanocomposites are listed in **Supplementary Table 7**.

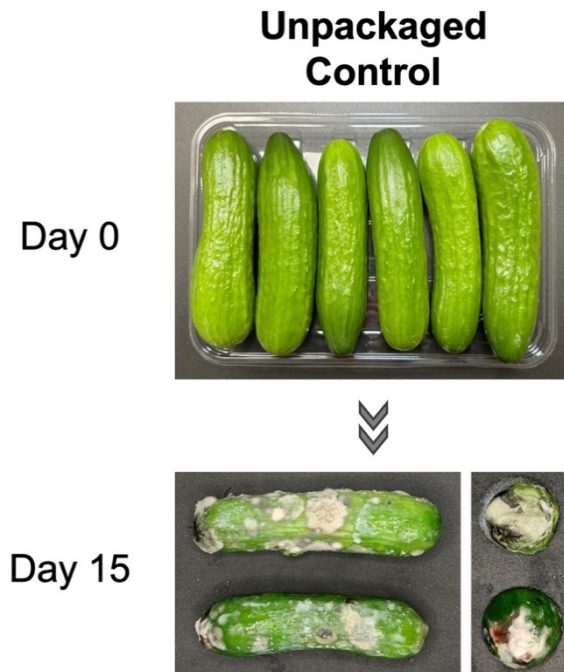
The cytotoxicity of Cu^{2+} /chitosan films was assessed using 3T3-L1 cell line (mouse fibroblast). To prepare the leachates, the Cu^{2+} /chitosan films were dissolved in a 10 wt.% acetic acid solution, followed by serial dilutions for analysis. The leachates at varying film concentrations of 0.8, 4, 20, 40, and $200 \mu\text{g mL}^{-1}$ were added to the cell culture media, and the cell viability was subsequently quantified.

Cytotoxicity on twelve nanocomposite extract were conducted in accordance with ISO 10993 guidelines using L929 cells. Each nanocomposite was incubated in DMEM (Gibco,

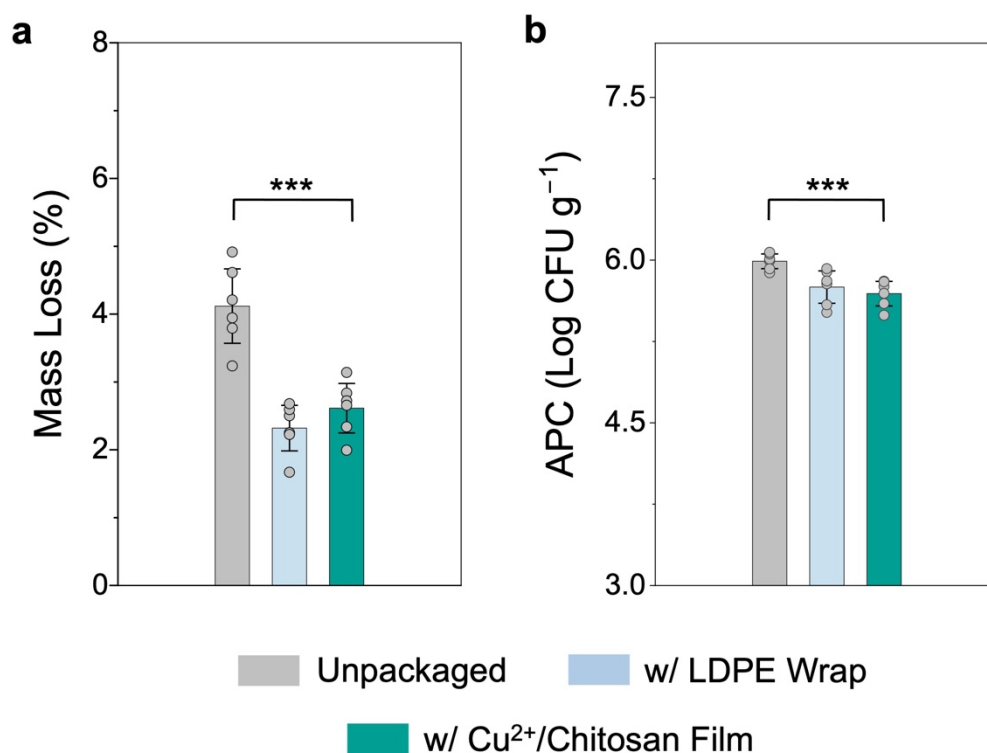
UK) containing 10% FBS (Biological Industries, Israel) at 37 °C for 24 hours, and the resulting media were then extracted for cell culture. L929 cells (1×10^4 cells/well) were seeded in 96-well plates under 5% CO₂ for 24 hours before replacing the culture medium with nanocomposite extracts for another 24 hours. An MTT assay was performed by adding 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide to each well and incubating for 2 hours at 37 °C. After discarding the MTT solution, dimethyl sulfoxide was added to dissolve the formazan crystals, and absorbance was measured via ELISA at 570 nm and 650 nm.

Cytotoxicity was also assessed using an LDH detection kit (Roche, Germany). After L929 cells were exposed to each nanocomposite extract at 37 °C for 24 hours, 100 µL of medium was collected, combined with the kit's reagent, and analyzed at 490 nm (reference 630 nm). A fluorescence-based live/dead assay (LIVE/DEAD kit, Life, USA) further confirmed cytotoxicity: calcein (green) and ethidium homodimer-1 (red) were introduced following the manufacturer's protocol, and fluorescence images were captured (excitation at 488 nm for green and 561 nm for red) using an inverted microscope (Leica DMI8, Germany). *ImageJ* software quantified live and dead cell areas from these images, and data were applied to **Equation S6** to determine live/dead cell ratios.

$$\text{Fluorescence Intensity} = \frac{(\text{Live} / \text{Dead})}{(\text{Live} + \text{Dead})} \times 100\% \quad (\text{S6})$$



Supplementary Fig. 22. Unpackaged postharvest cucumber control preserved at 4 °C for 15 days.



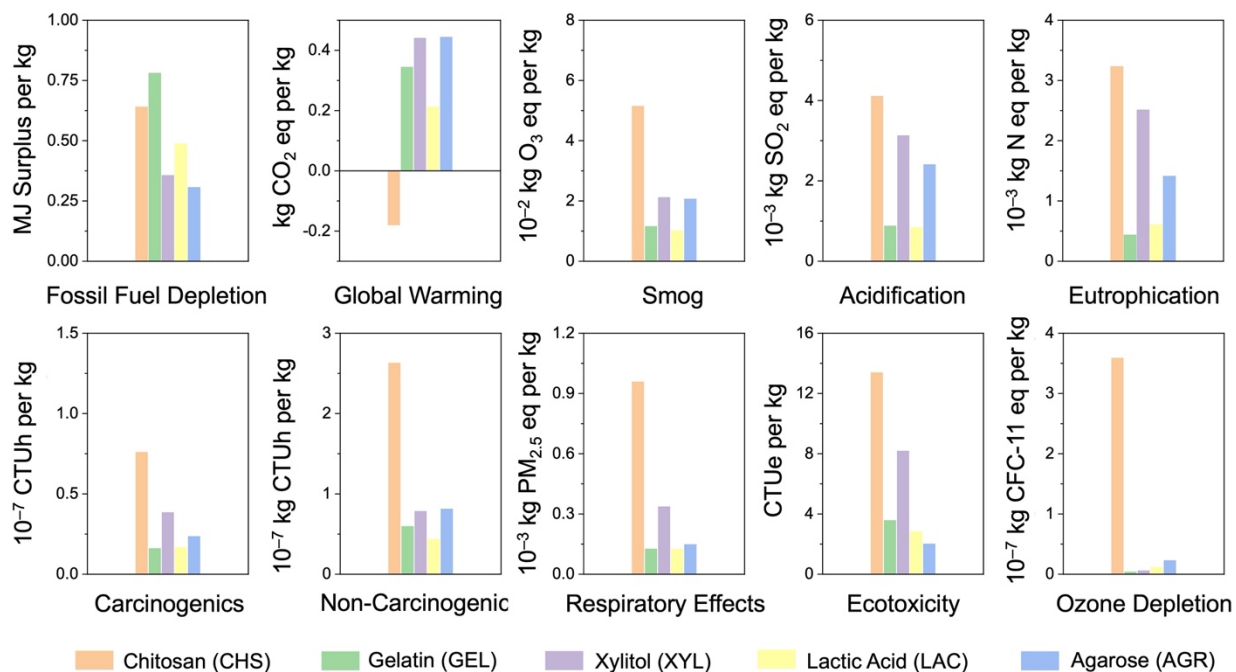
Supplementary Fig. 23. (a) Mass loss and (b) aerobic plate count (APC) measurements of postharvest cucumbers preserved at 4 °C for 15 days under three different packaging conditions (i.e., unpackaged, LDPE wrap, Cu²⁺/chitosan film). Statistical analysis showed that the mass loss and APC results for cucumbers packaged with Cu²⁺/chitosan film differed significantly from those of unpackaged cucumbers. Three asterisks (***) indicate a p-value <0.01.

The mass analysis aimed to assess cucumber dehydration by measuring weight changes. The weight of each sample was recorded using a precision scale balance.

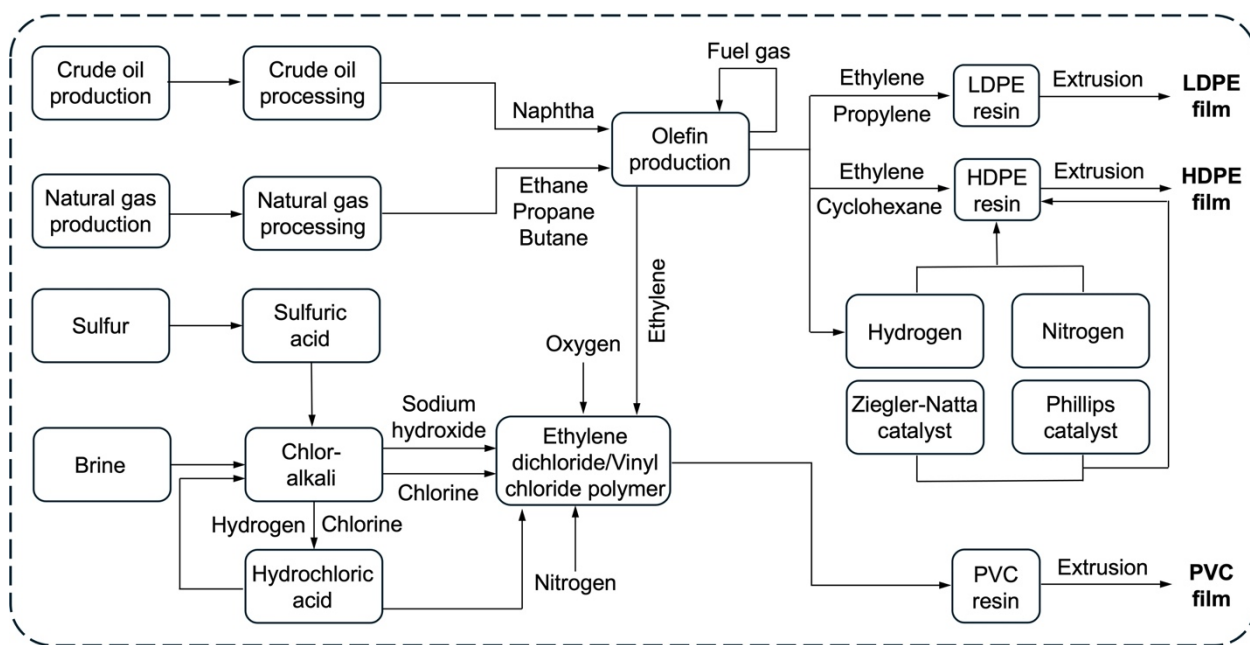
Microbial analysis was conducted on selected cucumbers from each of the three packaging conditions – unpackaged, packaged in commercial LDPE wraps, and wrapped in Cu²⁺/chitosan films – after 15 days of storage at 4 °C to evaluate their efficacy in controlling microbial growth.

The analysis focused on two key populations: the aerobic plate count (APC), which indicated the total bacterial load, and the specific counts of yeast and mold, which were critical in food spoilage.

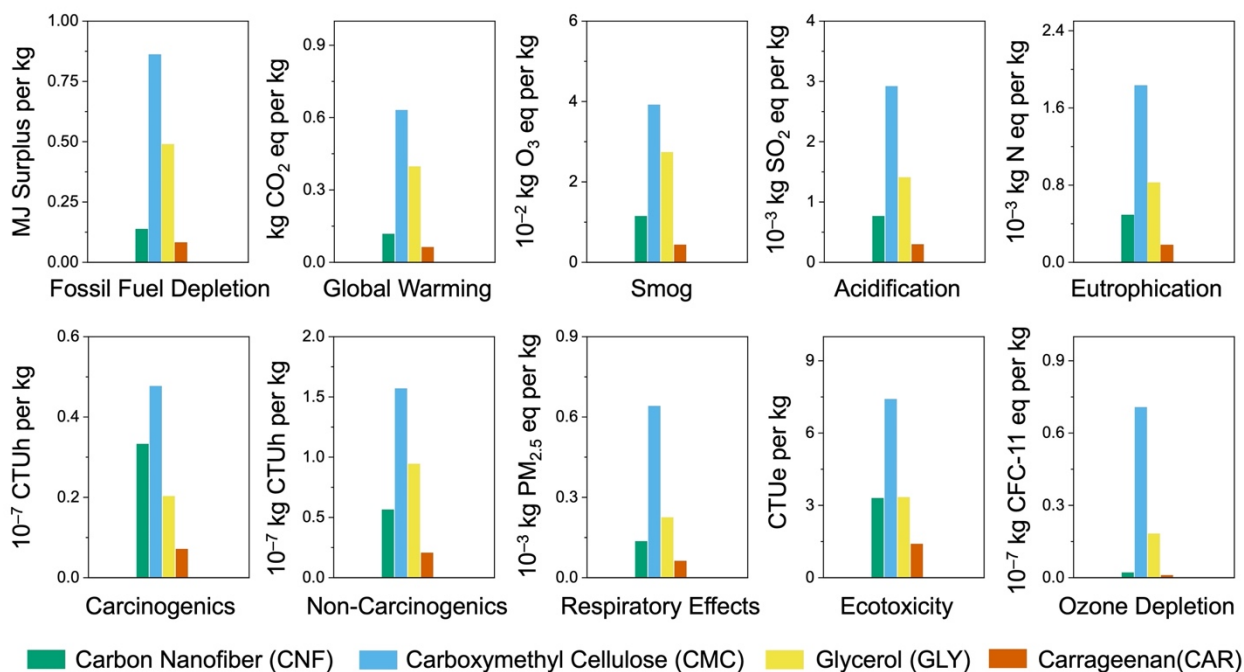
For each condition, 5 g of cucumber was collected and immersed in 45 mL of sterile buffered peptone water (BPW). The samples were homogenized for 2 minutes using a stomacher (Seward Type 80, UK) to ensure uniform suspension. Serial dilutions of 10^{-1} , 10^{-2} , 10^{-3} , 10^{-4} , and 10^{-5} were prepared, with additional long-term testing dilutions of 10^{-3} , 10^{-6} , 10^{-9} , 10^{-12} , and 10^{-15} . Each dilution was evenly plated onto APC plates (Petrifilm™, 3M) and incubated at 35 ± 1 °C for 48 hours. Colony counts were recorded after incubation, with a countable range set between 25 and 250 CFU.



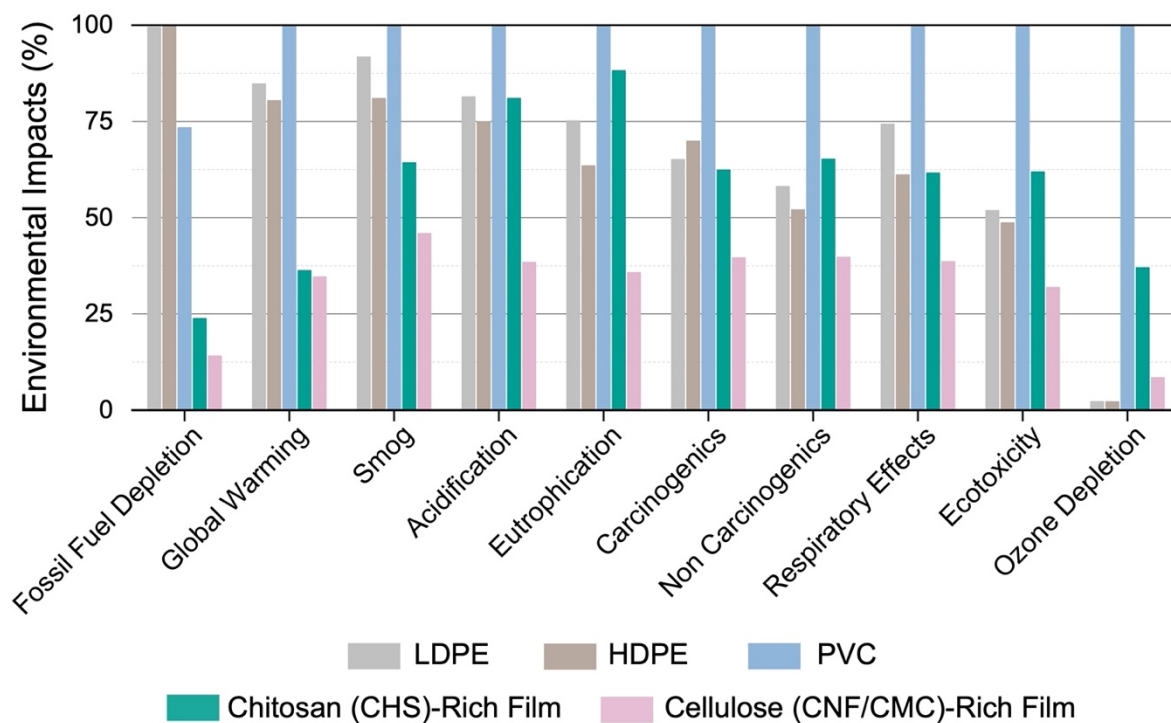
Supplementary Fig. 24. Comparison of the environmental impact of producing 1 kg of each of the five components involved in a chitosan-rich film across 10 impact categories.



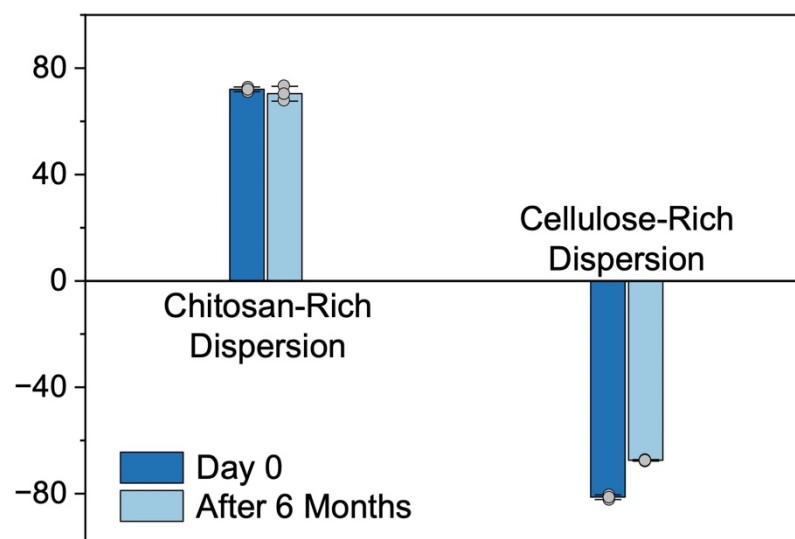
Supplementary Fig. 25. Manufacturing flow diagram for the LCA of conventional packaging plastics (LDPE, HDPE, and PVC). The dashed block represents the cradle-to-gate system boundary for the LCA.



Supplementary Fig. 26. Comparison of the environmental impact of producing 1 kg of each of the four components involved in a cellulose-rich film across 10 impact categories.



Supplementary Fig. 27. Comparison of the environmental impact of manufacturing 1 kg of conventional plastics and biobased packaging films (chitosan- and cellulose-rich films). The results are scaled to 100% within each evaluated impact category for simplified comparison.



Supplementary Fig. 28. Zeta potentials of chitosan-rich and cellulose-rich dispersions before and after six months of storage at 4 °C.

Supplementary Table 1. Initial collection of 465 feasible (denoted as Grade A) and 1,655 infeasible (denoted as Grade F) nanocomposite samples based on the diversity sampling for the construction of an ANN classifier to define a design space.

ID	Composition Labels (wt.%)										Grade
1	MMT	07.97	CNF	36.02	ZIN	23.45	FFA	22.00	SUA	10.55	A
2	CMC	24.57	SLK	19.70	CAR	06.29	STA	38.60	GLU	10.84	A
3	CNF	16.50	CAR	27.83	GLU	08.68	FFA	27.94	SUA	19.05	A
4	MMT	16.64	CMC	22.76	AGR	26.29	LEV	15.24	SUA	19.07	A
5	MMT	14.89	CAR	19.38	GEL	16.93	LAC	19.90	SUA	28.90	A
6	CNF	32.99	CAR	14.35	ZIN	15.20	XYL	37.46	-	00.00	A
7	CNF	23.44	GEL	08.57	ZIN	20.13	LAC	35.90	LEV	11.95	A
8	LAP	11.65	CNF	24.79	ALG	06.80	PUL	29.01	PHA	27.75	A
9	MMT	06.11	CNF	17.74	CAR	02.65	GLU	37.83	LAC	35.68	A
10	LAP	32.31	CNF	25.33	CAR	25.61	XYL	16.75	-	00.00	A
11	AGR	22.24	ALG	13.08	CAR	01.51	PUL	34.99	LAC	28.17	A
12	MMT	10.48	CAR	22.14	GLY	23.97	LAC	43.41	-	00.00	A
13	CMC	16.97	CNF	17.62	CHS	39.57	LAC	12.90	XYL	12.95	A
14	CNF	15.32	CAR	29.04	PUL	37.34	XYL	18.30	-	00.00	A
15	CAR	41.02	STA	21.84	GLU	26.99	ZIN	05.18	LAC	04.98	A
16	MMT	20.48	CAR	26.58	PUL	04.98	LEV	21.48	XYL	26.47	A
17	CAR	43.21	GEL	08.93	ZIN	07.60	GLY	21.45	FFA	18.80	A
18	MMT	34.08	SLK	05.00	AGR	30.92	FFA	19.90	LEV	10.10	A
19	LAP	35.59	CAR	26.71	GLY	18.10	XYL	19.60	-	00.00	A
20	PEC	37.41	PUL	12.19	STA	10.90	GLU	31.92	PHA	07.59	A
21	CMC	09.88	SLK	23.20	PUL	32.05	GLU	08.27	SUA	26.60	A
22	MMT	06.54	CNF	18.74	ALG	23.04	GLY	31.49	LEV	20.19	A
23	MMT	29.99	CAR	15.86	ZIN	15.10	LEV	32.55	SUA	06.50	A
24	LAP	17.56	CNF	30.02	PUL	20.56	LAC	06.90	XYL	24.96	A
25	CMC	23.15	CNF	10.47	ALG	40.74	XYL	25.64	-	00.00	A

26	CMC	30.00	CAR	12.45	GLU	21.40	FFA	26.05	XYL	10.10	A
27	ALG	17.34	PUL	17.39	GEL	23.33	FFA	15.39	PHA	26.54	A
28	LAP	21.01	CAR	15.21	STA	29.21	GEL	27.38	LAC	07.20	A
29	CMC	04.11	PUL	61.73	GEL	25.43	FFA	02.71	LEV	06.02	A
30	CNF	27.75	ALG	17.56	GLU	20.59	GLY	22.41	SUA	11.70	A
31	LAP	16.35	CNF	42.76	GLY	10.85	XYL	30.04	-	00.00	A
32	LAP	36.27	ALG	20.67	CAR	01.85	GEL	18.60	SUA	22.62	A
33	CNF	13.24	STA	39.71	FFA	10.33	LEV	16.26	SRB	20.46	A
34	MMT	27.46	AGR	16.80	CAR	20.48	LAC	28.90	PHA	06.35	A
35	PUL	12.65	ZIN	30.65	GLY	25.15	XYL	31.55	-	00.00	A
36	CMC	57.57	CHS	03.50	GLY	33.93	PHA	05.00	-	00.00	A
37	LAP	03.16	MMT	30.29	AGR	17.99	ALG	27.38	XYL	21.18	A
38	AGR	35.16	ALG	53.65	CHS	02.54	GLY	08.64	-	00.00	A
39	MMT	45.27	ZIN	22.14	GLY	11.37	FFA	21.22	-	00.00	A
40	CMC	21.36	CAR	24.72	FFA	26.15	LAC	26.92	LEV	00.85	A
41	LAP	07.13	MMT	16.97	GEL	25.08	LEV	04.95	SUA	45.88	A
42	MMT	17.23	CAR	15.07	PUL	15.75	FFA	26.50	XYL	25.45	A
43	LAP	18.45	CAR	29.02	GEL	14.07	ZIN	07.65	GLY	30.81	A
44	MMT	28.41	CNF	11.71	CAR	15.28	GLY	18.25	LAC	26.35	A
45	CNF	03.01	CHS	33.84	PEC	02.72	STA	32.63	LAC	27.80	A
46	ALG	16.76	PUL	28.13	FFA	14.85	SRB	16.61	XYL	23.65	A
47	MMT	25.39	AGR	02.49	CAR	26.25	PHA	21.69	XYL	24.18	A
48	MMT	33.16	CAR	26.29	PEC	21.92	GLY	09.34	SUA	09.29	A
49	MMT	26.23	CNF	11.73	ALG	22.79	GLY	17.15	PHA	22.09	A
50	MMT	29.28	CAR	20.00	GEL	25.47	ZIN	04.96	SUA	20.29	A
51	LAP	25.30	MMT	08.31	LAC	08.55	SUA	35.54	XYL	22.30	A
52	CNF	17.25	AGR	25.63	PEC	26.52	ZIN	04.98	SRB	25.63	A
53	MMT	16.99	CNF	18.20	ALG	15.80	FFA	28.78	LEV	20.23	A
54	CNF	41.03	PUL	11.65	ZIN	33.76	GLY	13.55	-	00.00	A
55	LAP	04.91	CAR	32.35	PUL	30.28	GEL	20.78	LAC	11.68	A

56	CNF	08.72	SLK	42.59	GEL	39.06	ZIN	04.73	PHA	04.90	A
57	CHS	13.85	GEL	20.24	GLU	18.80	LAC	18.65	LEV	28.46	A
58	ALG	31.81	CAR	26.97	GLY	15.49	LEV	04.95	XYL	20.78	A
59	CNF	08.47	CAR	22.88	PUL	57.30	XYL	11.35	-	00.00	A
60	MMT	24.18	ALG	23.69	GEL	11.99	GLY	40.15	-	00.00	A
61	CMC	26.52	CAR	27.95	PUL	28.35	GEL	08.03	LEV	09.15	A
62	CAR	26.84	PUL	22.25	GLY	33.60	LAC	12.42	SUA	04.89	A
63	CAR	28.23	PUL	05.37	ZIN	32.20	LEV	29.32	SUA	04.88	A
64	MMT	16.42	CAR	13.83	ZIN	15.87	SUA	04.93	XYL	48.95	A
65	MMT	27.21	CMC	28.78	AGR	03.45	GLU	33.57	GLY	07.00	A
66	MMT	10.62	SLK	20.94	PUL	14.64	GLU	17.15	ZIN	36.65	A
67	SLK	26.40	ALG	19.80	GLY	13.70	FFA	28.40	SUA	11.70	A
68	MMT	34.90	CNF	16.50	PUL	17.55	FFA	13.05	LAC	18.00	A
69	LAP	21.50	CAR	23.68	PUL	14.85	GEL	22.07	LEV	17.90	A
70	SLK	20.89	AGR	04.22	CAR	28.01	PUL	18.09	LEV	28.79	A
71	SLK	04.97	CAR	19.21	PEC	29.36	LEV	18.09	XYL	28.37	A
72	CMC	23.70	CNF	14.70	SLK	24.20	ALG	12.90	LEV	24.50	A
73	CNF	26.09	ALG	25.17	GLU	03.50	GLY	19.28	LAC	25.97	A
74	MMT	30.30	CNF	35.13	CHS	03.05	FFA	24.51	LEV	07.00	A
75	MMT	18.72	CNF	09.99	CAR	26.95	PUL	22.79	LAC	21.54	A
76	CAR	15.97	PUL	19.90	STA	30.59	LEV	10.85	SRB	22.69	A
77	LAP	28.24	MMT	14.12	CMC	21.23	CNF	08.98	SRB	27.44	A
78	CHS	75.51	GEL	17.14	SUA	07.35	-	00.00	-	00.00	A
79	LAP	22.54	MMT	22.48	CAR	27.43	FFA	22.64	LAC	04.92	A
80	LAP	43.87	CAR	17.31	PUL	19.06	XYL	19.76	-	00.00	A
81	CMC	20.04	CAR	43.92	FFA	04.98	SUA	19.02	XYL	12.05	A
82	CMC	18.80	CNF	18.30	PUL	18.05	GEL	18.56	GLY	26.29	A
83	MMT	13.64	CAR	17.25	PUL	20.49	GEL	22.83	GLY	25.79	A
84	LAP	17.90	MMT	14.64	CNF	45.80	SUA	21.67	-	00.00	A
85	MMT	02.98	CNF	32.29	GEL	34.57	FFA	14.55	XYL	15.60	A

86	CMC	09.03	PEC	35.56	PUL	35.86	ZIN	04.97	FFA	14.57	A
87	CMC	22.59	SLK	18.24	PEC	30.88	SRB	07.00	XYL	21.29	A
88	CAR	10.61	PUL	35.55	ZIN	29.80	FFA	14.15	SUA	09.90	A
89	CMC	24.43	ALG	04.89	CAR	22.12	STA	27.52	XYL	21.03	A
90	CMC	02.49	CNF	34.07	PUL	09.97	GEL	20.05	SUA	33.42	A
91	MMT	47.38	CMC	09.90	CAR	16.11	GEL	05.10	SUA	21.51	A
92	MMT	23.31	ALG	06.43	PEC	33.18	LAC	04.26	XYL	32.82	A
93	MMT	11.46	ALG	28.33	GEL	00.22	GLY	27.03	LAC	32.96	A
94	CNF	27.85	CAR	26.60	GEL	19.72	FFA	07.85	LEV	17.99	A
95	MMT	06.41	CMC	23.52	CAR	38.85	GEL	18.31	SRB	12.90	A
96	CHS	16.21	STA	06.66	GEL	39.17	GLU	20.81	GLY	17.14	A
97	CNF	33.47	ZIN	44.23	GLY	07.55	XYL	14.74	-	00.00	A
98	LAP	19.41	CAR	37.17	PUL	15.36	GLY	28.06	-	00.00	A
99	CNF	38.25	PUL	31.18	XYL	30.57	-	00.00	-	00.00	A
100	MMT	12.02	CAR	24.62	PUL	20.41	STA	11.28	SRB	31.67	A
101	CNF	49.71	FFA	24.19	LAC	18.85	SUA	07.26	-	00.00	A
102	MMT	35.61	PUL	25.65	LAC	08.75	PHA	06.45	SUA	23.55	A
103	AGR	28.66	CAR	43.91	PUL	13.28	GEL	04.96	GLU	09.19	A
104	CMC	35.19	GLY	27.29	FFA	28.40	SUA	01.77	XYL	07.35	A
105	LAP	16.78	CNF	27.43	GEL	33.55	SUA	22.23	-	00.00	A
106	MMT	36.84	SLK	31.01	ALG	08.00	PUL	16.70	LAC	07.45	A
107	LAP	04.93	CAR	23.62	GEL	04.96	GLY	33.15	LEV	33.35	A
108	LAP	43.10	PUL	28.40	ZIN	10.70	GLY	17.80	-	00.00	A
109	LAP	23.10	CAR	28.85	PUL	21.95	XYL	26.10	-	00.00	A
110	SLK	23.62	AGR	13.31	GLU	20.18	ZIN	17.78	SUA	25.12	A
111	MMT	09.05	ALG	08.74	GLU	35.97	LEV	46.23	-	00.00	A
112	CMC	43.92	PUL	04.90	GEL	12.06	GLU	34.64	ZIN	04.48	A
113	ALG	15.05	CAR	23.04	PEC	21.45	PUL	25.35	SRB	15.10	A
114	MMT	23.68	PEC	17.58	GEL	18.21	GLU	21.29	LAC	19.24	A
115	CAR	33.62	STA	32.33	ZIN	05.00	GLY	21.40	LEV	07.65	A

116	CNF	35.05	PUL	10.10	ZIN	36.75	XYL	18.10	-	00.00	A
117	MMT	12.06	ALG	23.75	CAR	18.13	FFA	24.05	LAC	22.00	A
118	CAR	28.16	GLU	32.17	FFA	04.96	LAC	34.71	-	00.00	A
119	CNF	05.90	AGR	36.03	CAR	23.88	STA	27.16	LEV	07.03	A
120	CNF	32.69	PUL	34.13	ZIN	33.18	-	00.00	-	00.00	A
121	CMC	24.02	AGR	23.78	GLU	14.05	GLY	13.85	LAC	24.30	A
122	MMT	33.14	CNF	11.33	CAR	17.31	GEL	17.97	XYL	20.25	A
123	SLK	22.60	PEC	27.40	GLY	10.85	LEV	21.85	PHA	17.30	A
124	SLK	12.02	AGR	33.58	CAR	23.05	PUL	31.35	-	00.00	A
125	CMC	04.20	ALG	24.91	CAR	26.30	GEL	31.44	GLY	13.15	A
126	CMC	04.49	ALG	31.61	ZIN	03.29	GLY	12.28	LEV	48.33	A
127	PUL	29.97	GEL	32.45	GLY	09.66	LEV	09.96	SUA	17.96	A
128	SLK	23.95	GEL	09.97	GLU	10.29	ZIN	27.60	XYL	28.20	A
129	ALG	22.78	PEC	24.03	PUL	13.27	STA	24.47	SRB	15.44	A
130	MMT	28.50	PEC	04.16	PUL	27.62	GEL	10.29	PHA	29.43	A
131	MMT	28.23	AGR	22.25	CAR	13.15	GEL	10.33	XYL	26.05	A
132	CAR	37.84	PUL	34.60	XYL	27.57	-	00.00	-	00.00	A
133	MMT	32.93	CNF	29.75	GEL	03.40	ZIN	25.56	LAC	08.35	A
134	PEC	30.03	GLY	05.15	FFA	22.29	LEV	20.64	SUA	21.89	A
135	CAR	15.86	PEC	31.55	GLU	04.13	SRB	15.64	XYL	32.83	A
136	LAP	11.48	MMT	52.30	ALG	04.95	GEL	15.60	PHA	15.68	A
137	LAP	16.00	CNF	18.97	PUL	32.64	ZIN	32.39	-	00.00	A
138	MMT	53.46	CNF	15.68	ALG	21.82	CAR	05.57	GLU	03.46	A
139	CAR	14.70	STA	34.37	GLU	12.46	FFA	16.52	LAC	21.94	A
140	ALG	27.53	CAR	08.35	GLY	14.74	XYL	49.38	-	00.00	A
141	CNF	19.18	ALG	13.95	CAR	22.32	PHA	22.20	XYL	22.35	A
142	CNF	28.27	PUL	28.30	ZIN	43.43	-	00.00	-	00.00	A
143	GEL	37.18	ZIN	38.78	GLY	05.20	FFA	06.30	SUA	12.54	A
144	CMC	05.77	AGR	18.22	CAR	19.25	STA	50.60	SRB	06.15	A
145	CNF	22.78	SLK	23.44	AGR	19.57	ZIN	14.06	LEV	20.14	A

146	LAP	29.03	CNF	13.17	SLK	14.05	GLY	38.86	FFA	04.89	A
147	MMT	33.70	GLU	18.90	ZIN	11.10	PHA	13.65	XYL	22.65	A
148	CNF	30.42	ALG	17.15	GEL	25.74	GLU	13.58	LEV	13.10	A
149	MMT	10.37	ALG	18.80	GLU	24.71	LAC	26.70	XYL	19.40	A
150	LAP	23.16	MMT	21.98	CAR	20.49	PUL	09.31	SUA	25.06	A
151	MMT	22.79	CAR	27.96	GEL	44.18	FFA	05.07	-	00.00	A
152	CNF	17.63	ALG	39.61	GLU	08.30	LAC	26.41	LEV	08.05	A
153	LAP	12.34	CAR	19.40	PUL	30.58	XYL	37.68	-	00.00	A
154	CNF	50.10	GLY	15.03	XYL	34.87	-	00.00	-	00.00	A
155	MMT	28.98	CMC	03.22	CNF	07.71	STA	29.13	GEL	30.96	A
156	CMC	10.98	ALG	04.94	STA	31.66	FFA	30.65	XYL	21.77	A
157	CHS	46.77	GLU	05.00	PHA	11.96	SUA	20.01	XYL	16.26	A
158	CMC	26.51	CNF	20.93	ALG	14.04	PHA	10.08	SRB	28.43	A
159	MMT	06.66	CMC	20.06	CAR	07.97	GLY	35.13	SUA	30.17	A
160	LAP	18.75	CHS	07.68	GEL	21.44	ZIN	38.04	LEV	14.10	A
161	CMC	24.05	CNF	27.89	PEC	28.05	LEV	06.70	SRB	13.30	A
162	LAP	03.45	AGR	07.62	CAR	25.67	PUL	06.36	SRB	56.89	A
163	MMT	33.23	PEC	34.83	GEL	03.93	LAC	23.09	PHA	04.91	A
164	MMT	28.15	CMC	35.44	GLY	11.73	FFA	24.68	-	00.00	A
165	MMT	11.05	AGR	24.12	ALG	25.13	LAC	20.95	SUA	18.74	A
166	ALG	03.91	PUL	27.93	STA	27.54	FFA	25.10	SUA	15.51	A
167	MMT	33.56	ZIN	49.36	LAC	12.09	XYL	05.00	-	00.00	A
168	CNF	23.72	CAR	36.80	GLY	33.23	XYL	06.25	-	00.00	A
169	MMT	39.54	CAR	26.77	FFA	28.61	LAC	05.08	-	00.00	A
170	CAR	15.92	CHS	07.10	PUL	38.91	STA	25.41	LAC	12.65	A
171	MMT	19.79	AGR	24.46	GEL	20.96	FFA	17.24	PHA	17.56	A
172	CNF	28.64	STA	26.52	LAC	17.54	SRB	19.49	XYL	07.80	A
173	CNF	22.67	ALG	22.10	ZIN	28.87	FFA	12.00	SUA	14.35	A
174	MMT	15.68	CAR	28.73	PUL	22.38	LEV	28.31	XYL	04.90	A
175	LAP	22.60	MMT	08.81	CAR	02.64	GEL	46.91	SUA	19.04	A

176	SLK	31.05	ALG	19.69	PUL	04.96	LEV	17.66	XYL	26.64	A
177	LAP	14.85	GEL	36.48	ZIN	12.50	LAC	19.46	LEV	16.71	A
178	CMC	22.97	STA	24.86	FFA	09.20	LAC	16.39	SUA	26.59	A
179	CAR	16.08	PUL	26.81	LAC	29.79	XYL	27.32	-	00.00	A
180	CMC	26.29	CAR	19.06	GLU	22.25	FFA	08.65	LEV	23.74	A
181	MMT	22.58	ALG	43.34	PEC	24.29	PUL	03.77	SUA	06.02	A
182	CNF	32.35	ALG	19.20	PUL	24.40	GLU	16.59	FFA	07.45	A
183	LAP	08.10	CNF	40.69	PUL	45.66	ZIN	05.55	-	00.00	A
184	CMC	19.72	ALG	24.39	PUL	14.10	GEL	17.86	ZIN	23.93	A
185	LAP	12.54	MMT	27.46	CAR	35.96	GLY	16.84	FFA	07.20	A
186	AGR	04.55	PEC	24.00	PUL	31.60	GLY	24.65	SRB	15.20	A
187	CAR	06.85	PUL	72.20	GLY	20.95	-	00.00	-	00.00	A
188	LAP	25.44	MMT	20.27	SLK	10.55	PUL	16.40	GLY	27.34	A
189	MMT	23.95	CNF	23.37	FFA	25.99	LAC	04.97	XYL	21.72	A
190	ALG	31.38	CAR	15.08	GLY	21.32	LAC	13.96	PHA	18.27	A
191	LAP	20.01	MMT	18.34	SLK	20.76	CAR	20.49	PHA	20.41	A
192	MMT	23.62	CNF	38.06	CHS	03.72	PHA	07.55	SUA	27.04	A
193	LAP	06.25	CNF	22.46	PUL	34.80	GLY	36.50	-	00.00	A
194	CMC	23.05	PUL	31.19	GEL	12.86	LEV	19.20	SUA	13.70	A
195	CHS	43.92	GLU	10.01	ZIN	34.57	GLY	05.20	SUA	06.30	A
196	CMC	30.74	ALG	24.95	CAR	09.12	CHS	08.20	PEC	26.99	A
197	LAP	12.40	PUL	37.40	ZIN	27.85	XYL	22.35	-	00.00	A
198	CAR	19.50	GLU	17.44	ZIN	08.04	LEV	30.66	XYL	24.36	A
199	LAP	08.60	ALG	30.42	GLY	31.67	SUA	06.35	XYL	22.96	A
200	CMC	25.29	CNF	14.99	PEC	24.94	FFA	05.10	LAC	29.69	A
201	MMT	36.90	AGR	19.64	ALG	06.55	GLU	24.32	PHA	12.60	A
202	CNF	37.49	ALG	25.18	CAR	23.27	GLU	03.46	PHA	10.59	A
203	AGR	22.60	PEC	30.35	STA	14.87	GEL	22.43	SUA	09.75	A
204	MMT	24.67	CAR	16.40	STA	27.33	GLU	10.41	LEV	21.20	A
205	MMT	10.35	PEC	25.39	STA	14.66	LAC	29.99	XYL	19.60	A

206	CAR	14.80	PUL	22.50	ZIN	30.45	XYL	32.25	-	00.00	A
207	CMC	22.44	ALG	06.85	GEL	46.42	GLU	12.00	FFA	12.30	A
208	CAR	34.27	GLU	40.29	GLY	25.44	-	00.00	-	00.00	A
209	SLK	24.75	AGR	20.88	CAR	27.57	GEL	12.70	GLY	14.10	A
210	LAP	28.11	CNF	27.92	PUL	10.10	GLY	33.86	-	00.00	A
211	LAP	30.26	MMT	24.13	ALG	08.15	LAC	24.96	SUA	12.50	A
212	CMC	26.64	CAR	18.35	GEL	06.34	PHA	21.71	SUA	26.96	A
213	CNF	19.23	PUL	29.79	GEL	08.90	FFA	32.14	LEV	09.95	A
214	LAP	04.93	CAR	55.50	PUL	04.93	GLY	34.64	-	00.00	A
215	MMT	29.95	CNF	16.62	SLK	09.70	GEL	22.13	ZIN	21.60	A
216	LAP	04.85	CMC	48.14	PUL	27.89	FFA	04.85	LAC	14.26	A
217	CMC	27.98	CNF	21.14	FFA	26.86	PHA	04.89	XYL	19.13	A
218	LAP	31.87	CMC	18.16	STA	13.81	GEL	14.94	SRB	21.21	A
219	MMT	17.89	CAR	16.05	GEL	13.60	LAC	28.30	LEV	24.15	A
220	MMT	20.62	GEL	22.19	LAC	27.00	PHA	30.19	-	00.00	A
221	LAP	13.00	MMT	21.67	SLK	20.79	FFA	44.54	-	00.00	A
222	SLK	14.30	ALG	30.48	PUL	26.68	GEL	03.29	FFA	25.25	A
223	MMT	30.37	CNF	12.49	CAR	34.68	ZIN	09.00	LAC	13.45	A
224	LAP	27.51	CNF	37.64	ZIN	10.20	XYL	24.66	-	00.00	A
225	AGR	09.88	ALG	19.50	PUL	09.10	GLY	40.96	PHA	20.56	A
226	CNF	14.36	CAR	24.26	PUL	37.74	GLY	23.64	-	00.00	A
227	CMC	16.42	CAR	32.15	GEL	07.23	LAC	05.25	XYL	38.94	A
228	LAP	25.54	MMT	20.01	GLU	23.13	FFA	03.97	PHA	27.35	A
229	MMT	05.77	PEC	29.58	STA	12.69	FFA	28.90	PHA	23.06	A
230	CAR	18.42	CHS	22.15	ZIN	23.53	GLY	23.60	FFA	12.30	A
231	MMT	07.11	CHS	02.47	LAC	06.03	PHA	63.51	SUA	20.87	A
232	CNF	34.14	PUL	12.40	ZIN	35.80	GLY	17.65	-	00.00	A
233	MMT	30.40	CNF	03.12	ALG	11.25	GEL	21.99	SRB	33.24	A
234	AGR	03.14	PEC	36.30	GEL	20.08	PHA	04.91	XYL	35.57	A
235	MMT	23.84	CNF	16.94	PUL	11.13	GEL	43.20	SUA	04.90	A

236	LAP	25.51	MMT	25.58	ALG	17.71	LAC	08.05	XYL	23.16	A
237	CNF	29.13	PUL	10.35	ZIN	27.54	GLY	32.98	-	00.00	A
238	GEL	43.84	GLU	16.00	LEV	12.50	SUA	09.75	XYL	17.90	A
239	SLK	25.35	PEC	11.40	STA	17.34	GLY	15.35	XYL	30.56	A
240	LAP	25.37	CAR	34.32	PUL	05.35	GEL	34.95	-	00.00	A
241	LAP	19.55	CAR	19.39	PUL	35.55	GLY	25.50	-	00.00	A
242	PUL	24.24	ZIN	26.99	LAC	14.49	LEV	07.55	XYL	26.74	A
243	CHS	27.03	PUL	20.70	GLU	24.26	SUA	22.70	XYL	05.30	A
244	MMT	16.54	ALG	14.18	PUL	28.27	GLU	23.72	PHA	17.28	A
245	LAP	22.16	CNF	23.56	GEL	06.51	GLU	42.80	LEV	04.98	A
246	LAP	11.10	MMT	20.77	CMC	26.92	PUL	23.35	ZIN	17.86	A
247	LAP	24.55	PUL	33.95	ZIN	29.70	XYL	11.80	-	00.00	A
248	CMC	23.67	CNF	29.67	ALG	16.90	PUL	05.60	ZIN	24.16	A
249	CNF	36.25	FFA	21.75	LAC	10.83	LEV	31.17	-	00.00	A
250	LAP	08.10	MMT	35.52	GEL	15.33	ZIN	11.60	LAC	29.45	A
251	ALG	38.67	PUL	08.37	SRB	24.65	SUA	11.80	XYL	16.51	A
252	PEC	23.46	STA	24.27	GLY	05.10	FFA	11.15	SUA	36.01	A
253	MMT	28.80	CMC	30.24	SLK	04.94	ZIN	07.12	GLY	28.91	A
254	ALG	20.83	CHS	10.95	PEC	26.30	ZIN	04.88	GLY	37.03	A
255	MMT	34.80	CMC	21.17	ALG	12.83	FFA	04.99	LEV	26.21	A
256	CNF	17.65	ALG	32.40	GEL	28.70	GLY	05.55	PHA	15.70	A
257	MMT	24.29	PUL	22.99	GLU	05.53	GLY	18.05	LEV	29.14	A
258	LAP	11.25	CNF	03.07	AGR	31.88	PHA	23.79	XYL	30.01	A
259	AGR	17.55	CAR	22.35	GLU	06.75	FFA	30.10	XYL	23.25	A
260	MMT	16.97	CMC	18.85	CNF	10.87	PUL	28.40	GEL	24.90	A
261	PEC	32.02	PUL	09.02	FFA	21.31	SUA	15.23	XYL	22.42	A
262	LAP	12.31	CNF	19.60	PUL	28.32	ZIN	39.77	-	00.00	A
263	CNF	23.07	GEL	26.13	ZIN	24.85	GLY	20.05	FFA	05.90	A
264	MMT	02.75	CAR	39.03	PUL	45.80	GLY	05.99	XYL	06.44	A
265	ALG	22.49	GEL	21.15	SRB	25.08	SUA	08.74	XYL	22.53	A

266	LAP	17.94	MMT	19.04	ALG	23.09	PUL	17.79	LEV	22.14	A
267	CNF	41.55	PUL	35.01	GLY	04.90	XYL	18.54	-	00.00	A
268	ALG	00.12	CAR	22.06	GEL	02.69	FFA	52.07	LAC	23.05	A
269	ALG	27.13	CAR	15.84	PUL	24.70	GLY	32.33	-	00.00	A
270	MMT	04.62	CMC	39.07	AGR	23.67	STA	09.80	SRB	22.85	A
271	MMT	31.71	CMC	28.67	CNF	03.94	PEC	05.85	SRB	29.84	A
272	CNF	37.54	PUL	13.70	ZIN	09.13	LEV	07.65	XYL	31.99	A
273	LAP	44.51	CAR	15.39	ZIN	11.55	XYL	28.55	-	00.00	A
274	CNF	31.24	PUL	40.61	LEV	28.15	-	00.00	-	00.00	A
275	MMT	28.48	CAR	29.48	ZIN	25.97	LEV	04.90	XYL	11.17	A
276	CMC	02.48	SLK	31.27	ALG	28.39	FFA	07.83	XYL	30.03	A
277	MMT	14.62	CAR	16.03	ZIN	27.25	FFA	20.50	SUA	21.60	A
278	MMT	33.22	CAR	20.29	PUL	05.15	PHA	13.45	SRB	27.89	A
279	MMT	23.19	AGR	01.02	ZIN	27.76	FFA	30.26	LEV	17.77	A
280	CHS	18.19	GEL	10.24	GLU	27.02	ZIN	24.67	LAC	19.88	A
281	CMC	32.08	CAR	19.41	FFA	42.55	LEV	05.96	-	00.00	A
282	CMC	27.60	CAR	20.66	ZIN	17.00	LAC	16.09	LEV	18.65	A
283	CNF	14.51	SLK	27.61	ALG	17.10	CAR	21.58	SUA	19.20	A
284	CMC	29.97	ALG	21.89	PUL	22.24	FFA	06.95	SUA	18.95	A
285	ALG	09.29	CAR	49.62	FFA	29.56	PHA	11.53	-	00.00	A
286	MMT	28.40	CAR	27.39	GLU	22.94	GLY	21.26	-	00.00	A
287	LAP	07.60	MMT	12.63	CAR	32.05	GEL	29.03	GLY	18.70	A
288	CNF	47.61	CAR	04.93	ZIN	14.45	XYL	33.01	-	00.00	A
289	CNF	61.87	CAR	10.19	GLY	04.94	XYL	23.00	-	00.00	A
290	CMC	18.97	AGR	16.00	CAR	18.83	GLY	21.00	LAC	25.20	A
291	MMT	37.61	CMC	30.57	AGR	20.66	PUL	06.17	LAC	04.98	A
292	LAP	06.25	CNF	19.30	CAR	25.17	GLY	30.89	LAC	18.40	A
293	LAP	13.35	CNF	25.98	CAR	26.25	SRB	29.53	SUA	04.89	A
294	MMT	08.70	CMC	23.24	ALG	29.95	GEL	06.70	FFA	31.42	A
295	MMT	25.17	SLK	32.39	ZIN	14.22	LAC	04.92	XYL	23.30	A

296	LAP	28.04	MMT	25.50	STA	27.92	LAC	06.15	XYL	12.39	A
297	MMT	32.11	CAR	18.87	LEV	30.24	SUA	18.79	-	00.00	A
298	CMC	06.77	CAR	30.63	GEL	08.33	ZIN	31.29	SRB	22.99	A
299	LAP	19.25	CNF	31.69	ZIN	14.15	GLY	34.91	-	00.00	A
300	CMC	25.39	PUL	25.89	FFA	28.59	LAC	15.14	LEV	05.00	A
301	MMT	06.55	CNF	22.75	CAR	22.95	ZIN	11.45	LAC	36.29	A
302	ALG	30.73	GEL	08.40	LAC	05.15	LEV	29.44	SRB	26.29	A
303	LAP	14.09	ALG	35.08	PEC	05.00	PUL	19.04	STA	26.79	A
304	LAP	19.95	CNF	13.64	FFA	23.30	LEV	12.30	SUA	30.80	A
305	CMC	04.62	SLK	25.89	AGR	36.08	ALG	04.89	STA	28.53	A
306	CMC	40.49	CNF	10.68	CAR	11.93	LEV	17.11	SRB	19.79	A
307	MMT	31.35	CNF	27.30	GLU	12.30	GLY	05.35	XYL	23.70	A
308	LAP	20.35	CNF	26.04	ZIN	21.80	XYL	31.80	-	00.00	A
309	CMC	06.50	CNF	18.37	GEL	13.90	GLY	32.81	FFA	28.41	A
310	CNF	29.11	PUL	52.53	ZIN	08.30	XYL	10.06	-	00.00	A
311	MMT	21.34	PUL	13.50	GEL	25.17	ZIN	26.40	FFA	13.60	A
312	CAR	32.14	PUL	39.65	GEL	28.21	-	00.00	-	00.00	A
313	CHS	48.95	GEL	03.29	GLY	05.37	LEV	06.36	SUA	36.03	A
314	CMC	26.96	ALG	21.20	CAR	20.43	LEV	20.75	XYL	10.65	A
315	LAP	26.98	MMT	25.96	AGR	00.16	FFA	24.44	LAC	22.46	A
316	MMT	42.55	CNF	16.50	AGR	02.48	CAR	14.58	GLU	23.89	A
317	SLK	18.16	ALG	22.46	PEC	23.51	SUA	18.26	XYL	17.61	A
318	MMT	15.52	CAR	35.38	ZIN	14.15	LAC	17.95	SUA	17.00	A
319	MMT	37.55	FFA	12.04	LEV	50.41	-	00.00	-	00.00	A
320	MMT	18.42	CAR	17.55	ZIN	24.81	GLY	15.71	SUA	23.51	A
321	CHS	29.41	PUL	27.78	GLY	14.39	LAC	25.78	LEV	02.64	A
322	CAR	21.53	PUL	19.36	ZIN	06.00	FFA	21.76	LAC	31.36	A
323	LAP	23.76	AGR	12.23	PEC	27.16	STA	08.34	LAC	28.51	A
324	MMT	02.83	CAR	19.96	GEL	23.39	GLY	27.56	FFA	26.26	A
325	CNF	13.54	CAR	31.55	PUL	05.90	LAC	25.45	SUA	23.55	A

326	CMC	12.43	CNF	24.10	PUL	24.06	SUA	21.56	XYL	17.85	A
327	CNF	27.52	CAR	05.15	PUL	18.55	LEV	14.85	XYL	33.94	A
328	LAP	23.15	CAR	21.89	GLY	24.20	XYL	30.75	-	00.00	A
329	LAP	38.96	GEL	36.67	ZIN	04.98	LEV	19.38	-	00.00	A
330	CMC	33.30	AGR	22.65	ZIN	03.41	FFA	27.91	XYL	12.72	A
331	CMC	31.34	SLK	25.20	ALG	05.40	PUL	04.95	SRB	33.12	A
332	LAP	17.11	PUL	34.77	ZIN	33.12	XYL	15.01	-	00.00	A
333	LAP	29.42	MMT	39.40	CHS	09.98	PUL	21.19	-	00.00	A
334	MMT	11.26	CAR	49.86	PUL	16.90	ZIN	04.90	FFA	17.09	A
335	MMT	19.55	CMC	12.83	CNF	17.00	SLK	24.25	CAR	26.37	A
336	MMT	28.93	SLK	26.99	STA	33.25	ZIN	04.88	FFA	05.95	A
337	CNF	41.51	PUL	08.90	ZIN	08.95	XYL	40.64	-	00.00	A
338	CMC	07.80	CNF	48.74	AGR	31.01	ZIN	03.32	LAC	09.12	A
339	PUL	19.50	GLU	42.10	FFA	25.80	LAC	12.60	-	00.00	A
340	LAP	08.45	MMT	04.97	CAR	29.92	GEL	21.50	LAC	35.15	A
341	LAP	05.35	MMT	26.74	PUL	25.81	ZIN	32.54	XYL	09.55	A
342	CNF	25.34	CAR	02.88	PUL	21.25	ZIN	45.03	SUA	05.50	A
343	LAP	23.82	MMT	39.09	GLU	13.06	XYL	24.02	-	00.00	A
344	LAP	10.05	MMT	18.88	CAR	25.21	SUA	24.81	XYL	21.06	A
345	CNF	45.83	CAR	16.62	GEL	12.80	GLU	21.44	ZIN	03.31	A
346	LAP	21.64	CAR	24.18	GLY	14.94	LEV	21.44	SUA	17.79	A
347	CNF	19.55	CAR	06.69	FFA	21.35	LEV	21.60	XYL	30.80	A
348	LAP	16.15	CNF	27.91	PUL	19.95	ZIN	36.00	-	00.00	A
349	MMT	25.22	SLK	31.38	GLU	32.90	FFA	05.20	PHA	05.30	A
350	CNF	22.38	CAR	33.30	GEL	12.93	SUA	22.09	XYL	09.30	A
351	LAP	14.54	MMT	28.77	LAC	28.29	LEV	23.45	PHA	04.95	A
352	MMT	11.23	AGR	26.60	ALG	16.55	GLU	17.08	LEV	28.55	A
353	MMT	27.28	CAR	16.66	ZIN	19.99	SUA	36.06	-	00.00	A
354	MMT	16.85	CNF	23.60	ALG	23.73	GEL	10.69	GLU	25.13	A
355	MMT	20.53	SLK	26.36	GLY	31.51	LAC	07.55	LEV	14.05	A

356	LAP	22.76	MMT	07.35	SLK	27.11	PUL	34.91	STA	07.87	A
357	AGR	02.55	CAR	30.09	CHS	39.28	GLY	28.08	-	00.00	A
358	ALG	22.87	PUL	34.38	GLY	16.52	LAC	04.96	SUA	21.28	A
359	LAP	20.35	MMT	41.62	FFA	29.42	SUA	08.61	-	00.00	A
360	CMC	03.19	AGR	15.51	STA	26.42	GEL	28.97	GLU	25.91	A
361	LAP	29.25	PUL	32.45	GLY	06.30	LEV	32.00	-	00.00	A
362	CNF	16.41	ALG	30.53	ZIN	19.28	SUA	33.78	-	00.00	A
363	CNF	12.63	GEL	61.07	PHA	26.29	-	00.00	-	00.00	A
364	MMT	28.36	CMC	02.48	CNF	26.54	AGR	30.62	CAR	12.00	A
365	LAP	11.72	CHS	26.77	SUA	12.37	XYL	49.14	-	00.00	A
366	CMC	16.75	GEL	25.86	GLY	31.63	LAC	02.08	LEV	23.68	A
367	LAP	11.35	MMT	41.72	CNF	16.22	AGR	09.55	XYL	21.15	A
368	MMT	17.13	CAR	02.96	PUL	32.63	LEV	25.39	XYL	21.89	A
369	CMC	15.43	CAR	56.23	PHA	17.69	SRB	04.05	XYL	06.60	A
370	CNF	36.07	CHS	22.16	PUL	26.69	LEV	07.04	PHA	08.04	A
371	MMT	39.95	AGR	06.09	GLU	23.90	ZIN	30.07	-	00.00	A
372	CAR	32.27	PUL	25.60	ZIN	05.07	GLY	20.25	LAC	16.80	A
373	MMT	25.94	ZIN	27.70	GLY	28.02	LEV	18.34	-	00.00	A
374	LAP	14.00	MMT	17.28	PUL	33.91	FFA	06.05	LAC	28.76	A
375	MMT	12.18	PUL	27.06	GLU	07.30	PHA	26.46	XYL	27.01	A
376	CMC	50.85	PUL	06.15	ZIN	05.75	LAC	32.43	LEV	04.81	A
377	CAR	30.03	GEL	14.72	ZIN	25.44	SUA	29.81	-	00.00	A
378	MMT	28.10	CAR	06.75	PUL	12.85	SUA	26.20	XYL	26.10	A
379	CMC	00.34	AGR	10.78	ALG	47.30	CHS	15.79	SUA	25.79	A
380	LAP	12.25	PUL	29.60	GEL	28.90	FFA	09.75	LEV	19.50	A
381	CNF	20.78	STA	25.08	GEL	24.88	GLY	14.86	XYL	14.41	A
382	AGR	13.65	PEC	22.00	SRB	21.35	SUA	23.90	XYL	19.10	A
383	LAP	21.15	CNF	12.70	ALG	26.15	ZIN	05.20	SRB	34.80	A
384	LAP	31.64	CNF	37.62	PUL	11.30	GLY	19.44	-	00.00	A
385	MMT	27.70	CAR	40.09	GEL	03.37	SUA	28.85	-	00.00	A

386	CMC	42.22	CNF	26.93	PUL	11.70	GLY	05.55	XYL	13.60	A
387	LAP	28.94	MMT	16.49	AGR	06.10	PUL	23.14	GLU	25.33	A
388	SLK	27.15	PUL	30.04	GEL	07.57	FFA	09.50	LEV	25.75	A
389	PUL	57.26	FFA	17.99	LAC	16.73	SUA	08.02	-	00.00	A
390	MMT	34.14	ALG	26.93	CAR	06.50	PHA	27.43	XYL	05.00	A
391	CAR	02.67	CHS	39.47	GLU	33.42	LAC	24.45	-	00.00	A
392	MMT	28.32	CAR	20.25	GLY	25.13	FFA	26.30	-	00.00	A
393	CMC	29.77	GEL	29.93	ZIN	10.78	GLY	05.08	LAC	24.43	A
394	CNF	11.55	CAR	22.43	PUL	25.10	GEL	20.97	SUA	19.95	A
395	LAP	13.30	MMT	24.57	SLK	21.80	LAC	27.29	XYL	13.05	A
396	MMT	25.23	PUL	17.31	GEL	25.92	GLU	24.97	ZIN	06.57	A
397	CNF	26.65	AGR	24.68	ALG	14.35	PUL	23.15	ZIN	11.17	A
398	MMT	24.56	CNF	32.07	ZIN	04.90	GLY	23.20	SUA	15.27	A
399	MMT	06.13	CMC	30.72	PEC	26.62	GLU	17.95	SUA	18.58	A
400	LAP	03.43	AGR	32.55	PEC	23.47	LEV	24.79	SRB	15.75	A
401	LAP	08.54	CMC	26.00	CNF	44.65	CAR	15.85	GLY	04.96	A
402	LAP	18.46	CAR	63.81	GLY	04.88	XYL	12.84	-	00.00	A
403	MMT	25.77	AGR	34.07	ALG	27.02	GEL	13.14	-	00.00	A
404	MMT	20.33	ALG	29.93	STA	28.64	FFA	17.83	XYL	03.26	A
405	CNF	18.86	PUL	36.62	ZIN	33.62	GLY	10.91	-	00.00	A
406	MMT	27.68	CNF	03.05	AGR	52.54	GLU	11.85	LEV	04.89	A
407	CNF	46.94	ALG	25.20	ZIN	04.58	SUA	23.28	-	00.00	A
408	LAP	39.76	CAR	30.90	XYL	29.34	-	00.00	-	00.00	A
409	SLK	28.21	ALG	21.63	GLU	26.26	ZIN	18.94	GLY	04.95	A
410	CMC	06.15	CHS	29.31	GLY	08.71	LAC	33.59	SUA	22.24	A
411	LAP	24.96	MMT	35.20	CMC	09.33	CNF	16.41	SLK	14.10	A
412	LAP	26.71	CNF	26.23	ZIN	26.16	GLY	20.90	-	00.00	A
413	LAP	21.24	AGR	14.27	PEC	28.04	PUL	09.70	GLY	26.74	A
414	CAR	21.47	GEL	10.93	GLY	23.65	PHA	25.05	XYL	18.90	A
415	MMT	25.31	CNF	28.48	GEL	18.72	LAC	04.96	XYL	22.52	A

416	CAR	24.26	PUL	22.19	GEL	19.86	LEV	07.60	SUA	26.09	A
417	CNF	47.63	ALG	11.86	LAC	13.76	PHA	16.51	XYL	10.25	A
418	MMT	18.36	PEC	32.20	ZIN	19.38	GLY	14.74	XYL	15.32	A
419	LAP	12.79	CMC	03.89	CNF	54.24	LAC	03.21	SUA	25.88	A
420	LAP	07.33	CMC	20.48	SLK	04.89	LEV	37.83	XYL	29.47	A
421	CMC	28.64	CNF	28.59	AGR	24.95	ALG	04.92	FFA	12.89	A
422	MMT	26.51	CNF	20.55	CAR	22.06	GEL	11.93	FFA	18.95	A
423	MMT	26.74	CNF	31.80	SLK	22.96	ALG	14.40	GEL	04.10	A
424	MMT	26.75	PEC	28.36	GLU	12.80	PHA	04.96	SUA	27.13	A
425	CMC	44.99	SLK	04.92	CAR	15.24	GLY	27.58	PHA	07.28	A
426	PUL	48.43	GEL	19.45	ZIN	17.16	SUA	14.96	-	00.00	A
427	CNF	13.11	CHS	16.37	LAC	53.07	XYL	17.45	-	00.00	A
428	CMC	03.88	PEC	36.54	STA	10.92	GLY	23.13	PHA	25.53	A
429	MMT	32.56	CNF	23.52	STA	26.10	LAC	04.89	PHA	12.92	A
430	MMT	37.30	CAR	42.42	PUL	04.86	SUA	04.86	XYL	10.56	A
431	MMT	12.74	CAR	10.91	ZIN	21.50	FFA	31.05	XYL	23.80	A
432	CNF	32.57	AGR	11.34	CHS	19.34	GEL	36.76	-	00.00	A
433	CNF	13.36	CAR	24.19	PUL	18.80	ZIN	19.10	FFA	24.55	A
434	AGR	29.64	CAR	15.13	PUL	25.90	LAC	29.33	-	00.00	A
435	MMT	25.39	CNF	13.49	LEV	24.76	PHA	16.16	XYL	20.21	A
436	AGR	17.25	CHS	20.91	GEL	23.06	XYL	38.78	-	00.00	A
437	LAP	10.19	SLK	18.64	CHS	22.04	LAC	29.14	SUA	19.99	A
438	MMT	39.66	GEL	08.16	GLY	24.44	SUA	14.19	XYL	13.54	A
439	LAP	09.60	AGR	48.96	PEC	31.19	GEL	06.16	GLU	04.09	A
440	CMC	05.04	CAR	32.69	PUL	06.56	STA	25.58	SUA	30.12	A
441	MMT	20.92	CNF	27.47	PUL	33.22	LAC	13.46	SUA	04.93	A
442	AGR	16.73	PUL	21.90	STA	24.55	FFA	16.40	SRB	20.43	A
443	CMC	43.99	PUL	19.90	GEL	31.07	SUA	05.04	-	00.00	A
444	CNF	36.00	PUL	27.45	ZIN	36.55	-	00.00	-	00.00	A
445	MMT	24.91	CNF	25.42	LAC	37.19	SUA	12.48	-	00.00	A

446	LAP	12.95	AGR	31.73	CAR	23.98	ZIN	08.56	SRB	22.78	A
447	AGR	31.46	ALG	28.14	CAR	07.88	STA	27.84	GLU	04.69	A
448	MMT	04.87	PEC	27.20	GLU	17.32	GLY	27.85	LEV	22.75	A
449	LAP	14.35	CNF	19.33	AGR	19.75	LAC	21.60	SRB	24.96	A
450	CNF	15.51	CAR	32.80	GLY	20.70	XYL	31.00	-	00.00	A
451	CAR	20.96	PUL	35.80	ZIN	13.70	GLY	07.55	SUA	22.00	A
452	MMT	30.23	CNF	39.77	FFA	16.05	LAC	06.90	SUA	07.05	A
453	CNF	13.20	CAR	30.00	GEL	44.40	ZIN	06.45	SUA	05.95	A
454	MMT	20.54	CNF	16.97	CAR	20.99	PUL	05.75	SUA	35.75	A
455	CNF	52.56	PUL	28.34	ZIN	11.95	GLY	07.15	-	00.00	A
456	MMT	39.88	ALG	38.73	LEV	21.38	-	00.00	-	00.00	A
457	CMC	34.81	AGR	09.10	PEC	21.46	GLU	08.59	ZIN	26.04	A
458	LAP	05.25	CNF	48.79	PUL	23.45	GLY	22.50	-	00.00	A
459	CMC	30.01	AGR	06.16	ALG	20.47	LAC	36.19	LEV	07.18	A
460	LAP	20.11	CAR	36.88	FFA	33.20	LEV	04.90	XYL	04.90	A
461	CMC	22.43	CAR	03.54	FFA	39.49	LEV	07.43	XYL	27.11	A
462	AGR	27.28	GLU	21.26	FFA	12.80	LAC	07.35	SUA	31.31	A
463	SLK	07.40	AGR	14.73	CHS	33.54	GLU	30.71	XYL	13.61	A
464	MMT	09.01	AGR	49.12	STA	32.44	ZIN	04.42	SUA	05.01	A
465	CNF	32.21	CAR	11.42	GEL	14.74	ZIN	08.81	FFA	32.82	A
466	CMC	28.96	CNF	04.39	CHS	24.71	GLU	23.14	FFA	18.80	F
467	CAR	18.55	GEL	06.40	GLY	45.52	LAC	06.70	SUA	22.84	F
468	CNF	14.93	CAR	16.45	CHS	20.53	ZIN	18.99	SUA	29.10	F
469	LAP	18.51	CHS	24.86	PHA	21.86	SUA	15.71	XYL	19.06	F
470	CMC	31.68	AGR	56.93	CAR	08.05	GEL	03.33	-	00.00	F
471	LAP	30.99	CNF	24.72	PUL	20.64	XYL	23.64	-	00.00	F
472	CNF	04.64	AGR	03.26	GEL	34.42	ZIN	27.82	SUA	29.85	F
473	GEL	21.75	GLY	32.08	FFA	22.04	LEV	08.69	SUA	15.44	F
474	LAP	22.75	CMC	09.94	PEC	21.43	LEV	40.97	SRB	04.92	F
475	CAR	02.66	PUL	46.67	GLY	50.67	-	00.00	-	00.00	F

476	CHS	28.42	GLY	15.19	FFA	02.54	LEV	22.52	SUA	31.34	F
477	CNF	18.08	AGR	29.06	FFA	06.63	LEV	45.29	SUA	00.95	F
478	LAP	14.05	CNF	35.91	PUL	32.09	XYL	17.95	-	00.00	F
479	CAR	39.24	GLY	04.93	FFA	20.56	LEV	19.58	SUA	15.68	F
480	LAP	25.10	GLY	29.76	LEV	19.70	PHA	04.91	SUA	20.53	F
481	CNF	25.76	PUL	15.65	ZIN	10.70	XYL	47.89	-	00.00	F
482	SLK	04.99	CAR	34.58	GEL	13.71	PHA	24.36	SUA	22.36	F
483	CMC	26.15	SLK	07.20	GEL	21.90	LEV	23.75	PHA	21.00	F
484	ALG	25.97	CHS	08.99	PUL	47.55	LAC	11.09	SRB	06.40	F
485	CAR	24.13	CHS	22.49	GLY	23.39	LAC	06.35	PHA	23.64	F
486	LAP	25.70	STA	36.88	FFA	04.90	LAC	07.06	LEV	25.45	F
487	GEL	11.13	GLY	34.30	FFA	43.53	LEV	11.03	-	00.00	F
488	LAP	40.66	ZIN	26.30	GLY	04.92	XYL	28.12	-	00.00	F
489	LAP	19.30	ZIN	09.10	GLY	36.20	XYL	35.40	-	00.00	F
490	LAP	04.93	MMT	07.09	SLK	29.16	FFA	30.99	SRB	27.83	F
491	MMT	28.77	GLU	06.05	LEV	34.04	PHA	14.30	SUA	16.85	F
492	CNF	16.53	ZIN	48.16	LAC	24.81	LEV	10.50	-	00.00	F
493	PUL	33.14	GEL	10.86	GLY	23.17	XYL	32.83	-	00.00	F
494	AGR	36.39	CHS	02.52	GLY	33.90	SUA	27.20	-	00.00	F
495	CNF	13.73	ALG	21.79	ZIN	12.50	FFA	31.79	PHA	20.19	F
496	ALG	21.91	ZIN	09.67	GLY	22.66	LAC	19.91	SUA	25.86	F
497	LAP	29.45	MMT	34.78	ZIN	04.37	FFA	05.45	SUA	25.95	F
498	CNF	03.09	PUL	52.30	XYL	44.60	-	00.00	-	00.00	F
499	LAP	27.66	ALG	02.25	GLY	25.70	FFA	29.99	LEV	14.39	F
500	LAP	25.80	MMT	09.54	GLU	30.03	ZIN	25.27	FFA	09.35	F
501	LAP	19.00	MMT	10.90	AGR	24.62	CAR	33.63	GLY	11.85	F
502	PUL	61.43	ZIN	16.81	GLY	13.16	XYL	08.60	-	00.00	F
503	CNF	29.50	PUL	14.40	ZIN	22.30	GLY	33.80	-	00.00	F
504	MMT	21.30	CHS	23.30	GLY	28.78	LAC	26.63	-	00.00	F
505	PUL	05.80	GEL	11.30	ZIN	28.44	LAC	27.15	PHA	27.30	F

506	CMC	26.58	AGR	23.30	PUL	04.97	FFA	20.42	SUA	24.74	F
507	SLK	04.94	CHS	05.58	ZIN	28.89	LAC	30.32	SUA	30.27	F
508	CAR	02.73	GLY	44.24	SUA	53.03	-	00.00	-	00.00	F
509	LAP	23.05	PUL	48.85	ZIN	19.20	XYL	08.90	-	00.00	F
510	CAR	20.21	PUL	07.20	ZIN	32.35	GLY	40.24	-	00.00	F
511	CNF	33.72	SLK	19.20	CHS	24.43	GLU	14.74	PHA	07.90	F
512	CNF	20.27	PUL	20.91	GEL	20.71	GLY	16.66	LEV	21.46	F
513	CNF	39.59	PUL	06.45	ZIN	40.35	GLY	13.60	-	00.00	F
514	MMT	28.77	PUL	30.79	LAC	18.19	XYL	22.25	-	00.00	F
515	LAP	33.64	CNF	25.32	ZIN	35.89	XYL	05.15	-	00.00	F
516	MMT	62.48	CAR	04.71	CHS	22.14	SUA	10.67	-	00.00	F
517	SLK	26.50	CAR	32.62	CHS	20.23	FFA	06.90	LEV	13.75	F
518	LAP	41.38	PUL	33.08	ZIN	06.20	XYL	19.34	-	00.00	F
519	LAP	18.15	CMC	18.43	CAR	22.77	PUL	07.35	LAC	33.30	F
520	CNF	05.51	ZIN	14.25	FFA	25.55	LEV	18.35	SUA	36.35	F
521	MMT	07.42	LEV	09.20	SUA	83.39	-	00.00	-	00.00	F
522	LAP	33.70	AGR	05.55	PEC	29.45	PUL	24.50	LEV	06.80	F
523	ALG	14.15	CHS	14.67	GEL	22.73	FFA	23.45	LAC	25.00	F
524	LAP	18.53	CNF	03.62	GLU	20.98	PHA	56.88	-	00.00	F
525	SLK	16.40	GLY	25.90	LEV	16.25	SUA	22.00	XYL	19.45	F
526	PUL	23.55	ZIN	44.85	GLY	14.05	XYL	17.55	-	00.00	F
527	CMC	09.69	CNF	23.94	PUL	06.03	GEL	31.79	LEV	28.55	F
528	SLK	45.42	PHA	21.31	SUA	25.21	XYL	08.05	-	00.00	F
529	CNF	12.35	ALG	50.46	PUL	12.28	GLU	24.91	-	00.00	F
530	MMT	30.34	CMC	27.23	CHS	28.77	SUA	13.66	-	00.00	F
531	CNF	13.87	AGR	09.74	ALG	20.86	LEV	05.41	SUA	50.12	F
532	LAP	26.51	CAR	03.34	CHS	22.61	FFA	33.15	LAC	14.39	F
533	MMT	22.24	CNF	08.47	ZIN	39.04	SUA	22.20	XYL	08.05	F
534	MMT	31.28	GEL	20.11	ZIN	11.95	LEV	20.61	XYL	16.05	F
535	PUL	23.96	ZIN	30.97	GLY	21.91	XYL	23.16	-	00.00	F

536	LAP	10.93	AGR	13.39	GEL	03.31	GLY	20.62	FFA	51.74	F
537	MMT	16.82	CNF	16.25	CAR	20.32	GEL	27.16	LAC	19.45	F
538	SLK	27.23	AGR	29.68	ALG	31.62	SUA	11.47	-	00.00	F
539	CNF	24.70	ZIN	23.15	GLY	28.75	XYL	23.40	-	00.00	F
540	LAP	07.24	CHS	04.07	PUL	27.93	FFA	34.60	LAC	26.16	F
541	SLK	23.33	CHS	39.09	LEV	25.51	PHA	12.07	-	00.00	F
542	MMT	33.10	GEL	03.37	ZIN	28.04	XYL	35.49	-	00.00	F
543	LAP	21.11	AGR	16.48	ALG	29.61	PUL	21.81	PHA	11.00	F
544	LAP	16.25	PUL	35.05	ZIN	22.85	XYL	25.85	-	00.00	F
545	MMT	05.82	SLK	07.20	CHS	37.02	GLU	16.26	FFA	33.70	F
546	LAP	00.29	AGR	17.26	GEL	22.88	LAC	29.98	SUA	29.59	F
547	MMT	20.64	PUL	25.52	LAC	05.85	LEV	26.67	SUA	21.31	F
548	SLK	24.55	ALG	14.10	GEL	11.74	LAC	21.00	LEV	28.60	F
549	LAP	24.95	ALG	22.09	GLU	02.72	FFA	21.99	LEV	28.25	F
550	MMT	14.47	GEL	22.55	ZIN	29.56	GLY	28.47	LEV	04.95	F
551	CMC	28.65	GLU	10.10	ZIN	23.00	FFA	09.30	XYL	28.95	F
552	MMT	14.18	PUL	18.61	GLY	21.16	SUA	24.01	XYL	22.06	F
553	MMT	27.58	ZIN	25.11	LAC	17.03	LEV	25.36	XYL	04.92	F
554	CNF	16.85	SLK	20.30	GEL	25.55	GLU	37.30	-	00.00	F
555	LAP	23.55	CNF	14.26	ZIN	27.20	GLY	05.10	PHA	29.90	F
556	MMT	26.34	CAR	12.64	GLY	04.92	LAC	05.26	LEV	50.84	F
557	ZIN	33.84	GLY	23.25	XYL	42.91	-	00.00	-	00.00	F
558	CHS	02.86	GEL	10.35	FFA	33.86	LAC	19.21	XYL	33.71	F
559	LAP	29.05	MMT	11.13	CHS	23.94	PUL	10.63	PHA	25.24	F
560	LAP	27.20	CAR	15.65	ZIN	19.10	FFA	28.70	SUA	09.35	F
561	MMT	24.96	GEL	41.87	GLY	06.29	LEV	26.88	-	00.00	F
562	LAP	41.60	CNF	30.03	ZIN	04.99	XYL	23.37	-	00.00	F
563	SLK	06.85	AGR	24.89	CHS	11.22	FFA	27.44	LAC	29.59	F
564	CMC	06.89	ZIN	27.07	FFA	44.26	PHA	16.84	XYL	04.94	F
565	CMC	46.14	CHS	06.44	SUA	47.41	-	00.00	-	00.00	F

566	LAP	22.70	MMT	13.82	ZIN	10.40	PHA	28.74	SUA	24.35	F
567	ALG	19.12	PEC	05.84	STA	27.18	SRB	22.37	SUA	25.49	F
568	CNF	32.69	LEV	04.95	PHA	27.96	SUA	23.71	XYL	10.69	F
569	MMT	06.35	AGR	18.12	PEC	21.54	PHA	13.95	SUA	40.04	F
570	CMC	21.37	AGR	14.35	CHS	16.37	GEL	19.72	LEV	28.20	F
571	ALG	24.58	ZIN	25.66	LEV	15.41	PHA	04.99	SUA	29.37	F
572	LAP	40.73	PUL	20.52	ZIN	38.76	-	00.00	-	00.00	F
573	CNF	04.58	GEL	05.13	ZIN	26.20	FFA	13.20	XYL	50.89	F
574	LAP	17.70	CAR	23.09	CHS	29.94	STA	20.73	PHA	08.55	F
575	PEC	04.76	PUL	31.44	STA	26.69	GEL	21.27	LEV	15.85	F
576	MMT	20.49	CMC	07.07	STA	29.86	GEL	14.53	ZIN	28.05	F
577	SLK	04.84	CHS	13.37	PUL	28.68	LEV	48.26	XYL	04.84	F
578	CNF	09.37	ZIN	29.89	PHA	32.36	SUA	28.38	-	00.00	F
579	PUL	36.63	ZIN	26.24	LAC	08.30	LEV	22.99	SUA	05.85	F
580	CNF	15.73	PUL	35.93	GEL	38.41	GLY	04.96	LEV	04.96	F
581	LAP	24.80	GLU	24.71	LAC	22.29	SUA	23.27	XYL	04.93	F
582	LAP	26.36	CNF	05.27	PUL	28.06	ZIN	40.31	-	00.00	F
583	CMC	05.78	PEC	40.29	PUL	10.44	STA	03.91	ZIN	39.58	F
584	LAP	23.80	MMT	00.97	CHS	35.76	LEV	38.62	XYL	00.85	F
585	CNF	34.31	AGR	24.75	ALG	09.90	GLU	31.04	-	00.00	F
586	MMT	02.83	CHS	12.89	GLU	23.79	ZIN	31.17	SUA	29.32	F
587	MMT	32.02	AGR	02.48	CAR	35.77	GEL	22.22	GLU	07.51	F
588	AGR	17.68	ALG	03.62	STA	29.20	LEV	19.36	PHA	30.14	F
589	LAP	28.95	CNF	07.04	PUL	32.65	ZIN	31.35	-	00.00	F
590	LAP	39.30	CAR	14.00	ZIN	23.15	GLY	23.55	-	00.00	F
591	CAR	05.36	GEL	20.06	ZIN	20.49	LEV	23.64	SUA	30.44	F
592	LAP	06.56	GLU	47.81	ZIN	15.04	PHA	30.59	-	00.00	F
593	LAP	14.70	CAR	26.80	ZIN	26.95	LAC	25.35	SUA	06.20	F
594	CNF	16.28	CAR	29.87	CHS	03.71	FFA	02.38	LAC	47.76	F
595	CAR	31.80	CHS	06.30	STA	11.04	GLU	22.64	FFA	28.23	F

596	CAR	25.81	ZIN	39.95	XYL	34.24	-	00.00	-	00.00	F
597	CMC	02.49	GEL	14.69	GLU	15.86	GLY	20.74	FFA	46.22	F
598	CAR	14.45	ZIN	08.32	XYL	77.23	-	00.00	-	00.00	F
599	LAP	10.77	CMC	43.38	CNF	19.50	SLK	26.35	-	00.00	F
600	LAP	02.52	CMC	19.52	CHS	23.20	ZIN	30.55	SUA	24.21	F
601	MMT	05.27	SLK	22.00	AGR	26.35	PUL	21.90	ZIN	24.47	F
602	SLK	17.31	PUL	04.99	STA	27.34	GLU	11.21	LEV	39.16	F
603	LAP	17.38	CMC	06.05	CHS	20.85	PUL	26.28	LEV	29.45	F
604	MMT	03.12	PUL	23.49	GEL	29.79	ZIN	24.89	SUA	18.70	F
605	LAP	14.16	MMT	30.62	ALG	07.10	GEL	04.80	SUA	43.32	F
606	PUL	24.55	ZIN	17.75	FFA	20.35	LAC	26.20	LEV	11.15	F
607	AGR	59.34	GEL	29.46	LAC	05.00	XYL	06.20	-	00.00	F
608	CNF	07.35	CAR	25.27	GLY	23.59	FFA	29.29	LAC	14.50	F
609	CMC	20.25	PUL	18.90	GEL	15.10	PHA	25.85	XYL	19.90	F
610	CNF	17.59	GEL	29.10	GLY	06.37	LEV	46.94	-	00.00	F
611	SLK	26.78	ALG	04.91	CAR	12.50	CHS	22.97	PEC	32.83	F
612	LAP	25.45	PUL	28.50	ZIN	33.10	GLY	12.95	-	00.00	F
613	LAP	28.25	PUL	10.30	ZIN	34.65	XYL	26.80	-	00.00	F
614	MMT	21.67	GLY	24.77	FFA	38.94	LEV	14.62	-	00.00	F
615	SLK	26.54	FFA	11.99	LAC	21.99	PHA	26.84	XYL	12.64	F
616	MMT	07.38	CMC	12.36	ALG	38.93	CHS	41.33	-	00.00	F
617	MMT	12.18	CAR	22.81	GLY	23.61	SUA	23.51	XYL	17.90	F
618	LAP	20.00	SLK	14.00	GLY	12.50	LAC	21.45	LEV	32.05	F
619	MMT	15.49	FFA	34.96	SUA	33.46	XYL	16.08	-	00.00	F
620	CMC	10.15	CHS	27.15	GEL	12.04	SRB	23.75	XYL	26.90	F
621	AGR	24.45	GEL	30.56	GLY	15.25	LEV	07.15	XYL	22.60	F
622	ZIN	24.32	GLY	04.89	PHA	20.83	SUA	38.97	XYL	11.00	F
623	LAP	01.59	ALG	05.40	FFA	30.97	LAC	48.40	SUA	13.64	F
624	LAP	19.60	AGR	30.73	ZIN	08.35	GLY	17.23	FFA	24.09	F
625	CNF	20.19	GEL	14.39	ZIN	21.28	LEV	44.13	-	00.00	F

626	LAP	29.50	SLK	10.20	ALG	27.70	GLY	05.70	SUA	26.90	F
627	SLK	25.55	AGR	12.05	PUL	24.70	GLY	14.75	XYL	22.95	F
628	CNF	24.56	GEL	13.30	GLU	28.85	PHA	25.85	SUA	07.45	F
629	MMT	08.43	CAR	30.56	CHS	23.62	LEV	23.60	SUA	13.80	F
630	CNF	05.45	AGR	26.99	STA	31.12	LAC	17.39	SUA	19.04	F
631	MMT	25.22	CNF	18.33	CAR	19.65	PUL	26.50	SUA	10.30	F
632	LAP	05.25	PUL	27.35	GLY	29.25	LAC	27.00	SUA	11.15	F
633	CAR	06.16	GLY	10.15	LAC	05.50	LEV	46.52	SUA	31.66	F
634	CAR	24.15	GEL	12.51	FFA	04.94	LEV	32.83	PHA	25.58	F
635	CNF	37.72	ALG	41.94	CHS	08.75	GEL	06.90	GLU	04.69	F
636	CMC	57.21	CNF	05.87	CHS	28.11	ZIN	03.29	LEV	05.52	F
637	MMT	20.59	GEL	16.03	GLY	26.19	LEV	20.44	XYL	16.74	F
638	CNF	03.65	PUL	32.44	GEL	26.64	GLY	32.39	XYL	04.89	F
639	LAP	27.94	SLK	04.94	AGR	10.98	FFA	20.39	LAC	35.74	F
640	CAR	26.89	FFA	15.50	LAC	21.05	LEV	26.91	XYL	09.65	F
641	LAP	49.27	CMC	05.96	AGR	03.53	CHS	32.55	SUA	08.69	F
642	LAP	22.70	CAR	31.04	CHS	06.42	LAC	18.24	SUA	21.60	F
643	MMT	15.56	ALG	33.40	GEL	09.60	GLU	18.34	FFA	23.10	F
644	ALG	26.09	CHS	13.77	GLU	16.87	ZIN	08.03	SUA	35.24	F
645	LAP	04.92	MMT	18.52	GLU	22.44	GLY	28.81	PHA	25.32	F
646	LAP	08.65	MMT	18.02	CHS	16.81	FFA	26.91	SRB	29.61	F
647	GEL	10.71	GLY	28.53	FFA	22.12	SUA	38.64	-	00.00	F
648	AGR	29.79	PUL	11.65	GEL	30.67	GLY	07.13	LAC	20.75	F
649	LAP	15.15	SLK	30.55	PEC	30.35	ZIN	09.00	FFA	14.95	F
650	AGR	29.07	CHS	09.99	PEC	32.38	PUL	23.66	SUA	04.90	F
651	ALG	11.60	PUL	17.49	ZIN	27.12	FFA	30.49	LEV	13.30	F
652	MMT	29.49	PUL	06.20	GLU	39.04	GLY	17.51	LAC	07.75	F
653	LAP	15.68	MMT	19.66	GEL	08.34	ZIN	51.44	SUA	04.89	F
654	AGR	46.11	CHS	05.24	ZIN	05.06	FFA	04.89	SUA	38.70	F
655	ALG	21.01	GEL	11.09	ZIN	23.40	SUA	22.28	XYL	22.22	F

656	SLK	17.30	GLU	21.37	PHA	24.44	SUA	22.74	XYL	14.15	F
657	CAR	23.49	ZIN	57.54	GLY	04.97	FFA	05.76	PHA	08.24	F
658	ZIN	36.87	GLY	29.68	LEV	33.45	-	00.00	-	00.00	F
659	CMC	20.46	CNF	24.25	FFA	06.65	LEV	24.71	SRB	23.91	F
660	PUL	26.60	ZIN	31.05	GLY	15.20	XYL	27.15	-	00.00	F
661	CAR	17.77	FFA	04.96	LAC	31.48	XYL	45.80	-	00.00	F
662	LAP	06.70	CNF	39.33	GLY	26.14	XYL	27.84	-	00.00	F
663	LAP	25.76	ALG	33.41	CAR	02.72	PEC	27.31	GEL	10.80	F
664	CNF	13.39	SLK	25.76	GEL	19.97	ZIN	18.37	LAC	22.51	F
665	PUL	14.82	ZIN	23.78	FFA	04.89	LAC	23.04	SUA	33.46	F
666	LAP	24.10	MMT	20.12	GLY	19.35	FFA	19.90	LEV	16.55	F
667	CNF	09.38	GEL	27.11	ZIN	28.65	PHA	06.00	SUA	28.86	F
668	MMT	06.01	GEL	14.13	FFA	04.95	LEV	25.89	XYL	49.02	F
669	LAP	30.40	CAR	06.19	PUL	41.51	GLY	21.90	-	00.00	F
670	LAP	27.70	CHS	20.15	GLU	06.90	ZIN	27.70	XYL	17.55	F
671	CNF	25.38	GEL	30.91	ZIN	08.45	FFA	09.75	LEV	25.51	F
672	CNF	25.82	SLK	15.64	AGR	33.67	ALG	22.39	CHS	02.48	F
673	CMC	29.92	CAR	09.11	CHS	27.38	ZIN	06.50	FFA	27.09	F
674	CMC	23.30	CAR	25.46	CHS	12.32	PUL	11.45	ZIN	27.46	F
675	CHS	03.15	PUL	29.64	ZIN	13.44	PHA	13.79	XYL	39.98	F
676	SLK	07.26	ALG	22.50	FFA	33.98	LEV	36.26	-	00.00	F
677	MMT	22.78	CHS	20.36	GLY	14.39	FFA	20.54	XYL	21.93	F
678	LAP	25.89	CAR	09.84	ZIN	59.31	GLY	04.96	-	00.00	F
679	LAP	04.88	ZIN	04.88	LAC	09.03	SUA	62.52	XYL	18.69	F
680	LAP	21.70	CNF	36.14	GLY	35.36	XYL	06.80	-	00.00	F
681	CHS	05.26	GEL	11.12	ZIN	19.58	FFA	53.92	XYL	10.12	F
682	LAP	34.07	CMC	28.29	ZIN	27.64	PHA	05.07	SUA	04.92	F
683	CMC	21.39	CHS	18.32	GLU	21.29	GLY	34.09	LAC	04.91	F
684	LAP	30.30	CHS	12.78	LAC	22.43	LEV	22.68	SUA	11.81	F
685	STA	39.21	GEL	28.79	LEV	24.68	PHA	02.91	SUA	04.41	F

686	CNF	09.23	ALG	20.00	CAR	16.66	SRB	26.14	SUA	27.96	F
687	GLU	09.93	FFA	33.57	LEV	25.65	XYL	30.85	-	00.00	F
688	CNF	07.16	CHS	40.16	GEL	04.87	GLY	23.21	FFA	24.61	F
689	GLY	41.52	FFA	22.43	LAC	16.61	LEV	19.44	-	00.00	F
690	SLK	27.09	GLU	12.25	FFA	04.92	LEV	27.78	SUA	27.97	F
691	LAP	12.59	PUL	31.58	GLY	23.59	XYL	32.23	-	00.00	F
692	MMT	15.46	CNF	24.20	LAC	25.36	XYL	34.98	-	00.00	F
693	MMT	26.65	AGR	30.38	ZIN	07.49	LAC	12.05	LEV	23.43	F
694	CMC	28.34	CNF	06.17	AGR	14.13	LAC	27.51	PHA	23.86	F
695	LAP	06.10	MMT	25.51	CAR	13.20	PUL	10.00	LAC	45.20	F
696	PUL	44.85	ZIN	06.35	GLY	23.25	XYL	25.55	-	00.00	F
697	LAP	18.00	ZIN	58.44	GLY	04.92	XYL	18.64	-	00.00	F
698	CAR	35.35	CHS	26.54	GEL	05.67	FFA	24.14	XYL	08.30	F
699	LAP	13.42	PUL	28.99	GLY	04.99	FFA	25.25	SUA	27.35	F
700	CAR	04.93	PUL	22.39	STA	32.39	PHA	10.00	XYL	30.29	F
701	LAP	07.05	MMT	32.51	ZIN	26.24	FFA	25.45	LAC	08.75	F
702	CMC	33.27	ALG	06.86	SUA	27.66	XYL	32.22	-	00.00	F
703	MMT	21.33	CMC	08.78	AGR	39.51	CHS	02.58	SRB	27.81	F
704	CMC	28.02	SLK	35.84	AGR	18.90	FFA	11.00	XYL	06.25	F
705	LAP	10.45	MMT	07.04	CAR	33.66	FFA	15.00	LEV	33.85	F
706	ALG	11.35	CHS	16.58	PEC	26.76	ZIN	20.76	SUA	24.56	F
707	LAP	52.86	MMT	00.80	ALG	04.16	GLY	12.58	LEV	29.60	F
708	GEL	31.80	GLY	15.94	LEV	27.41	XYL	24.85	-	00.00	F
709	LAP	22.73	MMT	33.18	FFA	21.81	LAC	22.27	-	00.00	F
710	LAP	30.75	PUL	58.44	ZIN	10.82	-	00.00	-	00.00	F
711	MMT	12.37	GEL	16.43	GLY	24.95	FFA	17.05	XYL	29.20	F
712	LAP	33.50	CNF	20.08	CAR	25.76	CHS	06.40	FFA	14.25	F
713	MMT	18.61	CMC	33.57	ALG	11.35	CAR	05.84	ZIN	30.63	F
714	PUL	17.55	GEL	20.40	FFA	35.75	LAC	13.10	SUA	13.20	F
715	LAP	22.70	MMT	19.43	GEL	13.63	LAC	21.95	LEV	22.30	F

716	CNF	03.39	AGR	26.30	PUL	21.55	LAC	20.90	PHA	27.85	F
717	LAP	05.85	CAR	39.03	ZIN	22.83	LAC	08.85	XYL	23.44	F
718	CAR	18.15	ZIN	14.41	GLY	19.76	LAC	15.76	LEV	31.92	F
719	PEC	24.38	GLU	17.98	LAC	21.06	SRB	22.51	XYL	14.06	F
720	LAP	29.14	CNF	28.72	CAR	10.91	XYL	31.23	-	00.00	F
721	MMT	00.05	AGR	30.24	CHS	36.93	FFA	00.38	LEV	32.41	F
722	CNF	55.90	CAR	09.54	LEV	18.71	SUA	15.85	-	00.00	F
723	CMC	02.49	AGR	25.73	CAR	31.67	ZIN	33.75	LAC	06.37	F
724	MMT	08.55	GLY	11.46	FFA	31.57	LEV	31.77	PHA	16.66	F
725	PUL	30.70	ZIN	36.85	GLY	05.00	XYL	27.45	-	00.00	F
726	LAP	06.75	SLK	41.50	CAR	22.50	GLU	13.75	PHA	15.50	F
727	CNF	37.94	ALG	23.67	CHS	10.23	PEC	20.80	ZIN	07.36	F
728	CHS	28.61	PEC	26.03	GLU	20.07	SRB	14.24	SUA	11.04	F
729	CNF	35.77	ZIN	04.89	GLY	04.89	LAC	39.11	SUA	15.35	F
730	LAP	58.95	MMT	15.86	CMC	17.84	ALG	07.35	-	00.00	F
731	MMT	10.83	CNF	03.09	CAR	32.36	GEL	24.32	XYL	29.40	F
732	LAP	17.15	CNF	20.19	CAR	33.36	PUL	29.30	-	00.00	F
733	ALG	00.61	GLY	38.76	FFA	44.23	LEV	07.19	XYL	09.21	F
734	CNF	24.04	ALG	28.81	CHS	31.48	GLU	03.71	LEV	11.95	F
735	LAP	28.45	PUL	18.55	GLY	27.55	XYL	25.45	-	00.00	F
736	CHS	13.03	GEL	17.80	GLU	06.27	FFA	48.35	SUA	14.55	F
737	MMT	13.56	AGR	04.98	FFA	21.15	SUA	30.00	XYL	30.30	F
738	CAR	38.44	GLY	12.15	LAC	18.60	LEV	22.76	SUA	08.05	F
739	CNF	11.85	PEC	19.20	GEL	26.42	FFA	07.97	PHA	34.56	F
740	LAP	23.35	CAR	27.15	GEL	14.90	LAC	14.05	SUA	20.55	F
741	LAP	45.07	PUL	41.22	ZIN	05.80	XYL	07.90	-	00.00	F
742	LAP	28.04	ALG	16.51	CHS	20.66	STA	19.59	XYL	15.20	F
743	LAP	32.93	PUL	13.69	GLY	20.99	XYL	32.38	-	00.00	F
744	MMT	02.75	AGR	34.19	GLU	32.70	ZIN	17.12	LAC	13.24	F
745	CMC	02.89	AGR	12.23	CAR	35.71	CHS	22.36	FFA	26.81	F

746	CNF	24.34	CAR	08.77	GLY	25.40	LAC	15.10	SUA	26.39	F
747	ALG	11.79	CAR	31.34	PHA	13.04	SRB	31.93	XYL	11.89	F
748	LAP	30.56	CNF	14.02	ZIN	09.60	GLY	45.81	-	00.00	F
749	CMC	11.97	FFA	17.33	LEV	38.14	SUA	32.56	-	00.00	F
750	CMC	21.86	SLK	19.95	CAR	19.63	PUL	20.30	XYL	18.25	F
751	AGR	27.98	STA	28.48	GLU	06.38	GLY	12.10	SRB	25.06	F
752	GEL	04.70	GLU	34.76	ZIN	04.93	PHA	32.10	XYL	23.52	F
753	CMC	43.97	SLK	27.06	PUL	23.17	SUA	05.81	-	00.00	F
754	SLK	24.45	AGR	26.45	CHS	13.30	PUL	14.55	GEL	21.24	F
755	CAR	05.01	PUL	21.00	GEL	36.63	PHA	12.10	SUA	25.25	F
756	LAP	15.90	CNF	12.77	PUL	15.85	ZIN	55.49	-	00.00	F
757	CNF	29.86	CAR	32.05	PUL	06.66	GLU	04.93	SUA	26.49	F
758	LAP	32.31	PUL	18.95	GEL	10.64	LEV	05.70	XYL	32.41	F
759	LAP	26.60	PUL	24.50	GLY	35.90	XYL	13.00	-	00.00	F
760	MMT	13.65	CMC	39.40	ALG	14.85	PHA	19.45	SUA	12.65	F
761	PEC	30.36	PUL	28.70	GLU	13.80	FFA	03.59	XYL	23.56	F
762	CMC	08.92	CNF	32.42	AGR	14.15	GLU	04.94	FFA	39.57	F
763	SLK	18.40	GLY	26.00	FFA	21.75	PHA	28.50	SUA	05.35	F
764	CNF	48.70	ZIN	35.63	GLY	10.72	XYL	04.94	-	00.00	F
765	CNF	49.46	PUL	06.50	ZIN	17.00	XYL	27.05	-	00.00	F
766	MMT	07.01	SLK	04.92	ALG	24.01	FFA	21.85	SUA	42.22	F
767	STA	26.20	GEL	23.50	ZIN	05.90	SRB	13.00	SUA	31.40	F
768	LAP	05.85	ZIN	36.50	GLY	15.70	XYL	41.95	-	00.00	F
769	LAP	15.21	CMC	01.47	CNF	14.16	ZIN	52.41	LEV	16.75	F
770	CNF	02.81	PEC	14.79	ZIN	13.59	PHA	37.23	SRB	31.58	F
771	CAR	39.77	GLU	03.43	PHA	07.94	SRB	24.44	XYL	24.43	F
772	LAP	12.85	CAR	20.54	FFA	25.40	LAC	17.30	XYL	23.90	F
773	MMT	14.08	GEL	09.77	LAC	14.25	SUA	09.80	XYL	52.10	F
774	CMC	39.67	SLK	11.87	CAR	32.83	CHS	15.63	-	00.00	F
775	CNF	14.68	PUL	45.11	GLY	28.26	XYL	11.95	-	00.00	F

776	LAP	07.90	MMT	24.39	CNF	22.03	LEV	24.09	SUA	21.59	F
777	LAP	24.60	CAR	14.45	LEV	13.45	SUA	21.35	XYL	26.15	F
778	CMC	02.82	CNF	35.12	GEL	32.50	LAC	24.62	SUA	04.94	F
779	CMC	16.79	CNF	29.62	GLY	19.09	LAC	12.25	XYL	22.24	F
780	MMT	29.79	CNF	17.67	CAR	19.61	PHA	32.93	-	00.00	F
781	ALG	11.00	PEC	22.15	GLU	07.56	ZIN	37.73	LAC	21.56	F
782	CNF	25.53	CAR	07.65	ZIN	19.35	LEV	29.81	SUA	17.65	F
783	CNF	26.06	CHS	15.42	ZIN	12.57	LEV	38.45	PHA	07.50	F
784	ALG	04.98	CHS	29.05	PUL	10.75	FFA	16.32	LAC	38.91	F
785	MMT	06.49	GLU	53.42	PHA	04.96	XYL	35.14	-	00.00	F
786	CNF	18.62	STA	32.16	ZIN	16.05	LEV	04.89	SUA	28.28	F
787	LAP	19.80	CMC	25.47	CNF	16.84	GLY	11.65	LEV	26.25	F
788	LAP	54.99	SLK	04.94	GLY	05.78	FFA	17.00	LAC	17.29	F
789	LAP	14.65	CMC	28.12	CAR	33.35	GLU	17.88	GLY	06.00	F
790	AGR	42.91	CAR	00.08	CHS	00.05	FFA	56.26	SUA	00.69	F
791	CMC	16.20	CHS	20.05	ZIN	31.20	GLY	15.20	LEV	17.35	F
792	LAP	07.55	PUL	23.65	GEL	19.76	ZIN	25.90	XYL	23.15	F
793	CHS	07.29	ZIN	30.64	GLY	20.94	LAC	12.42	SUA	28.70	F
794	LAP	37.15	PUL	15.90	GLY	05.65	XYL	41.30	-	00.00	F
795	MMT	26.71	CHS	37.63	GLU	17.26	GLY	05.00	LAC	13.40	F
796	LAP	31.46	SLK	10.40	GEL	05.27	LEV	27.86	SUA	25.01	F
797	LAP	15.66	CMC	22.89	PUL	20.91	GLU	18.63	SUA	21.91	F
798	MMT	17.84	CMC	25.23	CNF	27.72	ALG	07.85	GLU	21.36	F
799	PUL	21.10	ZIN	23.60	GLY	09.60	XYL	45.70	-	00.00	F
800	AGR	20.55	GEL	09.08	FFA	25.73	SUA	21.96	XYL	22.67	F
801	CNF	10.54	SLK	05.90	STA	22.40	GEL	24.10	LAC	37.05	F
802	LAP	23.65	MMT	17.90	FFA	17.00	LEV	31.85	SUA	09.60	F
803	ALG	25.14	CHS	23.77	PUL	10.70	LAC	13.80	SRB	26.59	F
804	STA	25.41	ZIN	20.92	LEV	24.59	PHA	15.52	XYL	13.56	F
805	LAP	25.40	AGR	06.80	CAR	28.64	CHS	04.52	GLU	34.64	F

806	MMT	21.97	CNF	08.53	GLY	27.50	FFA	22.20	SUA	19.80	F
807	AGR	20.21	GLU	05.05	GLY	12.61	FFA	41.47	LEV	20.66	F
808	MMT	22.54	CHS	18.82	GLU	11.08	PHA	05.60	XYL	41.96	F
809	CMC	22.42	CAR	23.78	CHS	18.67	FFA	09.05	SRB	26.09	F
810	AGR	25.35	GEL	17.44	GLU	23.80	GLY	19.40	LEV	14.00	F
811	CNF	11.76	PEC	12.80	PUL	14.25	GLU	27.82	SRB	33.36	F
812	CMC	14.15	SLK	20.35	ALG	18.85	GEL	25.70	XYL	20.95	F
813	LAP	23.40	GEL	20.89	GLU	26.56	ZIN	05.48	LAC	23.68	F
814	LAP	13.45	ALG	30.20	CAR	03.01	LAC	33.20	SUA	20.15	F
815	ALG	22.70	GLU	14.85	ZIN	11.55	LEV	23.20	SUA	27.70	F
816	MMT	26.10	ZIN	27.91	FFA	11.65	LAC	34.34	-	00.00	F
817	LAP	05.70	GLY	15.21	FFA	34.67	LAC	30.77	LEV	13.66	F
818	AGR	39.39	ALG	22.38	PUL	18.65	GEL	19.58	-	00.00	F
819	CAR	25.22	ZIN	03.32	FFA	51.61	SUA	12.39	XYL	07.47	F
820	CHS	36.17	FFA	21.54	LAC	08.05	PHA	27.64	SUA	06.60	F
821	LAP	27.29	SLK	25.87	ALG	31.13	FFA	15.72	-	00.00	F
822	MMT	32.30	CMC	10.05	CHS	02.35	PUL	21.45	FFA	33.85	F
823	CAR	41.55	CHS	53.96	ZIN	04.49	-	00.00	-	00.00	F
824	CNF	12.49	PUL	32.55	GLY	16.60	XYL	38.35	-	00.00	F
825	MMT	41.90	CAR	25.33	CHS	04.18	FFA	25.31	LAC	03.28	F
826	CAR	22.08	PUL	09.16	ZIN	04.98	SUA	39.21	XYL	24.58	F
827	PUL	13.70	GLY	26.05	LAC	13.90	LEV	32.05	XYL	14.30	F
828	AGR	26.33	STA	32.67	GLY	15.30	LEV	16.70	XYL	09.00	F
829	MMT	07.83	LAC	23.40	LEV	16.20	SUA	24.55	XYL	28.01	F
830	MMT	17.82	PUL	38.11	ZIN	27.61	LAC	16.46	-	00.00	F
831	CAR	23.32	CHS	05.32	LAC	26.23	PHA	22.54	XYL	22.59	F
832	LAP	14.33	CHS	23.09	LAC	18.10	SUA	22.58	XYL	21.91	F
833	SLK	28.76	ALG	07.49	GLY	49.27	PHA	14.48	-	00.00	F
834	MMT	44.56	SLK	04.92	AGR	08.41	CHS	16.53	STA	25.58	F
835	LAP	19.80	AGR	19.22	ZIN	13.13	LAC	22.85	SUA	25.00	F

836	LAP	31.71	CNF	38.39	GLY	24.66	XYL	05.25	-	00.00	F
837	LAP	27.39	ZIN	31.81	GLY	35.89	XYL	04.91	-	00.00	F
838	AGR	09.72	CHS	28.40	PEC	25.78	GEL	31.11	ZIN	05.00	F
839	CNF	00.48	CHS	51.68	ZIN	06.98	FFA	38.72	LEV	02.14	F
840	CHS	23.00	ZIN	18.17	FFA	31.78	LAC	08.69	SUA	18.36	F
841	CMC	14.35	ALG	29.35	GLU	08.71	ZIN	22.30	GLY	25.30	F
842	CMC	21.52	GEL	32.20	LAC	25.09	SUA	21.19	-	00.00	F
843	CNF	26.98	ALG	06.88	PUL	26.88	FFA	15.52	LEV	23.74	F
844	CHS	01.79	ZIN	33.73	LEV	22.76	SUA	31.90	XYL	09.81	F
845	CMC	19.70	CAR	22.32	GEL	30.28	LEV	27.71	-	00.00	F
846	ALG	43.38	CHS	14.89	GLY	34.59	FFA	03.56	LEV	03.57	F
847	CHS	37.80	GLY	36.13	FFA	05.00	XYL	21.07	-	00.00	F
848	CHS	46.08	PUL	07.98	GEL	32.68	GLU	06.02	PHA	07.24	F
849	CNF	11.86	AGR	08.51	ALG	32.71	GLY	22.27	LEV	24.65	F
850	CMC	15.50	STA	39.20	ZIN	20.10	LAC	16.95	PHA	08.25	F
851	CMC	04.46	CNF	15.10	CHS	30.88	GEL	24.90	SUA	24.66	F
852	PUL	18.71	ZIN	06.30	GLY	41.52	XYL	33.47	-	00.00	F
853	STA	23.65	GLU	19.14	FFA	18.58	PHA	27.98	SUA	10.65	F
854	LAP	08.40	CNF	18.29	PUL	29.50	XYL	43.81	-	00.00	F
855	LAP	32.48	MMT	22.31	AGR	31.56	FFA	08.45	PHA	05.20	F
856	CNF	27.61	CAR	26.28	ZIN	29.41	GLY	16.71	-	00.00	F
857	CNF	17.96	PUL	11.95	FFA	24.65	PHA	14.70	SUA	30.75	F
858	PUL	28.38	FFA	05.04	LAC	09.07	SUA	57.51	-	00.00	F
859	LAP	16.50	CAR	34.09	ZIN	18.20	GLY	31.21	-	00.00	F
860	CAR	20.13	GLY	05.90	FFA	19.09	LAC	27.69	SUA	27.19	F
861	MMT	13.94	FFA	11.20	SUA	41.83	XYL	33.04	-	00.00	F
862	MMT	22.65	CNF	12.79	PUL	14.62	GLY	04.94	FFA	45.00	F
863	LAP	32.22	PUL	29.66	GLY	27.81	XYL	10.31	-	00.00	F
864	CNF	11.08	AGR	21.67	CHS	25.90	PUL	26.10	GLU	15.26	F
865	AGR	28.76	STA	25.46	FFA	28.29	PHA	06.20	SUA	11.30	F

866	CNF	03.16	SLK	04.92	GLU	15.08	GLY	21.25	SUA	55.59	F
867	LAP	19.14	GEL	20.83	ZIN	17.24	LAC	15.99	LEV	26.79	F
868	CMC	20.32	CHS	02.65	GEL	26.26	GLY	23.64	XYL	27.14	F
869	ALG	04.94	CHS	18.27	STA	37.25	GLU	18.63	SRB	20.91	F
870	SLK	27.72	PUL	23.91	GEL	18.58	XYL	29.78	-	00.00	F
871	CNF	20.02	FFA	13.02	LAC	29.30	XYL	37.66	-	00.00	F
872	MMT	27.70	CNF	03.36	CAR	22.97	LAC	22.51	XYL	23.46	F
873	LAP	23.36	ALG	24.91	CHS	23.66	PUL	20.51	GEL	07.57	F
874	SLK	23.10	CAR	03.28	ZIN	21.20	GLY	17.55	LAC	34.86	F
875	CAR	08.11	PUL	15.85	GLY	18.10	LAC	26.65	LEV	31.30	F
876	SLK	08.54	CAR	54.75	CHS	02.48	FFA	05.61	XYL	28.61	F
877	SLK	27.00	CAR	05.09	PUL	29.25	LAC	27.00	SUA	11.65	F
878	GEL	64.07	GLY	05.74	LEV	05.95	SUA	24.24	-	00.00	F
879	CMC	22.63	SLK	20.45	PUL	07.20	ZIN	29.77	FFA	19.95	F
880	CNF	14.61	ZIN	33.10	GLY	34.05	XYL	18.25	-	00.00	F
881	MMT	15.12	GEL	26.07	GLU	28.60	LAC	05.75	SUA	24.46	F
882	MMT	26.99	GEL	24.27	GLY	28.90	FFA	14.70	LAC	05.15	F
883	CMC	08.95	AGR	33.26	CAR	21.95	LEV	33.05	SUA	02.78	F
884	AGR	08.20	ALG	19.65	CAR	28.77	GEL	15.20	SUA	28.19	F
885	CNF	13.06	SLK	26.30	CHS	28.19	LAC	27.53	LEV	04.92	F
886	SLK	14.30	CHS	15.95	ZIN	30.90	LEV	17.10	XYL	21.75	F
887	LAP	11.76	CNF	17.11	PUL	25.31	GLY	45.82	-	00.00	F
888	MMT	12.52	ALG	31.47	PUL	31.62	XYL	24.39	-	00.00	F
889	LAP	27.52	CNF	26.85	AGR	06.51	PEC	34.18	GLY	04.93	F
890	MMT	13.12	CNF	05.22	PEC	33.16	PUL	22.76	STA	25.74	F
891	LAP	07.05	CNF	15.44	GLU	28.70	GLY	21.80	FFA	27.00	F
892	LAP	59.99	MMT	24.25	CNF	04.82	GEL	10.94	-	00.00	F
893	MMT	02.83	GEL	15.31	ZIN	25.41	FFA	29.15	LAC	27.30	F
894	CNF	46.85	PUL	18.05	ZIN	13.35	XYL	21.75	-	00.00	F
895	SLK	07.73	AGR	22.77	PHA	38.06	SUA	31.44	-	00.00	F

896	MMT	36.34	CNF	16.88	GLU	04.83	FFA	37.11	PHA	04.83	F
897	LAP	25.92	GEL	13.20	LEV	33.48	PHA	27.40	-	00.00	F
898	CNF	28.08	AGR	24.55	GEL	06.07	PHA	16.10	XYL	25.20	F
899	CNF	03.42	CAR	02.83	GEL	23.83	GLY	63.13	XYL	06.80	F
900	LAP	24.01	ALG	28.46	LEV	24.21	SUA	05.55	XYL	17.76	F
901	LAP	24.95	ALG	21.85	PHA	30.35	SUA	10.45	XYL	12.40	F
902	CMC	20.26	ALG	25.97	CHS	04.49	PUL	26.64	LEV	22.64	F
903	CMC	16.58	AGR	26.75	GLY	03.67	LAC	36.97	SUA	16.03	F
904	MMT	18.24	ALG	28.44	CHS	19.41	LAC	33.91	-	00.00	F
905	SLK	16.71	GEL	20.25	ZIN	16.46	GLY	25.07	SUA	21.51	F
906	LAP	22.06	AGR	06.08	ALG	15.65	PUL	20.61	FFA	35.61	F
907	LAP	20.98	SLK	17.48	ALG	04.94	GEL	39.17	GLY	17.43	F
908	CMC	27.23	CNF	25.11	ALG	09.43	CAR	10.90	PUL	27.32	F
909	CMC	22.10	GEL	27.33	ZIN	08.93	FFA	24.65	LAC	17.00	F
910	CMC	28.10	PUL	19.53	GLU	28.46	PHA	16.36	SRB	07.56	F
911	ALG	20.96	CHS	23.17	GLY	20.92	LAC	13.32	SUA	21.62	F
912	CMC	30.10	SLK	05.00	GLY	13.69	LEV	28.03	XYL	23.18	F
913	CNF	19.39	PEC	29.59	GEL	25.97	GLY	05.95	XYL	19.10	F
914	LAP	30.18	LEV	69.82	-	00.00	-	00.00	-	00.00	F
915	AGR	33.84	CHS	01.80	PUL	05.83	SUA	35.85	XYL	22.68	F
916	MMT	21.04	AGR	03.26	STA	24.64	GLY	22.14	XYL	28.92	F
917	LAP	32.47	CNF	09.68	SLK	04.92	CHS	21.06	LEV	31.88	F
918	CMC	02.50	SLK	28.97	GLY	12.84	SUA	40.86	XYL	14.84	F
919	LAP	33.91	MMT	24.10	CNF	12.27	LAC	29.72	-	00.00	F
920	MMT	39.28	CAR	15.36	FFA	21.60	LAC	23.76	-	00.00	F
921	LAP	15.16	CNF	28.57	PUL	27.01	GLY	29.26	-	00.00	F
922	GEL	12.44	GLY	09.66	FFA	32.83	LAC	45.07	-	00.00	F
923	MMT	51.72	CMC	13.41	ZIN	18.25	GLY	16.62	-	00.00	F
924	MMT	14.10	CMC	09.82	AGR	22.22	PEC	28.55	LEV	25.30	F
925	LAP	24.51	CMC	20.18	PUL	23.06	GEL	14.34	PHA	17.91	F

926	MMT	23.29	CHS	26.95	LAC	23.76	PHA	26.00	-	00.00	F
927	CAR	11.06	CHS	27.70	GLU	09.00	GLY	05.60	FFA	46.64	F
928	CMC	02.48	CAR	20.72	ZIN	04.47	LAC	20.91	SUA	51.41	F
929	MMT	24.90	CMC	18.37	SLK	17.69	GLY	18.69	PHA	20.34	F
930	SLK	28.15	GEL	15.04	LAC	21.85	SUA	25.95	XYL	09.00	F
931	MMT	04.37	CNF	27.79	GLY	36.43	FFA	26.44	SUA	04.97	F
932	CMC	21.81	AGR	17.93	ALG	28.96	LAC	25.01	SUA	06.30	F
933	LAP	58.91	CNF	33.54	CAR	02.63	XYL	04.93	-	00.00	F
934	LAP	22.49	AGR	28.99	PUL	38.28	GLU	05.04	SUA	05.20	F
935	AGR	22.19	PUL	27.75	GEL	19.29	GLY	25.81	SUA	04.96	F
936	MMT	24.60	ALG	15.31	PHA	19.22	SUA	40.87	-	00.00	F
937	CNF	26.91	PUL	27.00	GLY	18.90	XYL	27.20	-	00.00	F
938	MMT	46.92	GEL	29.89	GLY	09.96	SUA	13.23	-	00.00	F
939	SLK	31.30	AGR	29.42	ALG	04.94	CHS	04.52	GLU	29.81	F
940	GLU	12.81	ZIN	18.63	FFA	16.00	LAC	28.60	LEV	23.95	F
941	CHS	17.43	STA	26.04	GLY	24.85	SRB	10.30	XYL	21.38	F
942	MMT	30.25	CNF	14.29	FFA	09.25	LAC	28.45	LEV	17.75	F
943	AGR	10.88	CAR	20.51	GEL	33.91	LAC	16.40	PHA	18.30	F
944	LAP	42.50	CNF	07.35	PUL	38.60	ZIN	11.55	-	00.00	F
945	LAP	04.89	SLK	34.73	GEL	27.33	ZIN	03.26	FFA	29.79	F
946	MMT	21.01	ALG	13.69	CHS	05.52	STA	47.84	GLY	11.94	F
947	LAP	04.90	CMC	26.58	CNF	26.82	ALG	23.08	CHS	18.62	F
948	CNF	23.58	AGR	18.18	CAR	09.34	CHS	18.53	SUA	30.36	F
949	CNF	10.52	ALG	10.60	CHS	31.89	FFA	24.49	LEV	22.49	F
950	LAP	14.55	MMT	05.71	ALG	32.55	CAR	29.62	GLU	17.57	F
951	MMT	10.70	ALG	05.58	CAR	02.66	GLU	30.11	PHA	50.94	F
952	CAR	24.40	GEL	05.07	ZIN	26.35	LEV	16.20	PHA	28.00	F
953	ALG	25.63	CHS	22.75	GEL	17.65	FFA	13.96	LAC	20.00	F
954	CNF	22.66	CAR	18.21	ZIN	03.31	PHA	04.97	XYL	50.85	F
955	LAP	30.44	MMT	03.12	PUL	27.44	GEL	31.85	FFA	07.15	F

956	AGR	25.45	PUL	25.76	SUA	48.79	-	00.00	-	00.00	F
957	CMC	07.65	CNF	09.81	SLK	27.95	GEL	28.94	XYL	25.65	F
958	AGR	26.81	FFA	15.32	LEV	57.87	-	00.00	-	00.00	F
959	LAP	29.20	PUL	27.10	GLY	14.85	XYL	28.85	-	00.00	F
960	LAP	37.60	CNF	04.95	ZIN	29.50	GLY	27.95	-	00.00	F
961	CMC	22.36	STA	24.87	ZIN	07.05	GLY	25.46	PHA	20.26	F
962	ALG	32.90	CHS	16.68	ZIN	20.97	FFA	23.35	LEV	06.10	F
963	MMT	12.01	PUL	04.88	GLY	07.66	FFA	25.90	LAC	49.55	F
964	AGR	25.51	CHS	46.65	GLU	04.00	LAC	23.84	-	00.00	F
965	AGR	20.73	GEL	14.57	GLU	13.20	LEV	26.15	PHA	25.35	F
966	MMT	23.62	STA	24.79	GLY	14.15	FFA	09.55	SRB	27.89	F
967	LAP	27.55	GLU	23.20	ZIN	15.60	PHA	05.70	XYL	27.95	F
968	CNF	31.01	CAR	31.45	CHS	24.42	ZIN	13.12	-	00.00	F
969	LAP	10.44	FFA	39.13	LAC	21.74	SUA	28.69	-	00.00	F
970	CHS	33.95	PUL	04.34	STA	08.64	SRB	26.55	SUA	26.52	F
971	MMT	40.01	AGR	33.18	ZIN	26.81	-	00.00	-	00.00	F
972	AGR	15.97	CAR	25.78	GLU	24.42	LEV	17.44	PHA	16.39	F
973	MMT	19.59	CAR	15.02	FFA	10.06	PHA	26.42	SUA	28.92	F
974	LAP	52.59	CAR	02.64	PUL	34.95	XYL	09.81	-	00.00	F
975	MMT	21.10	GEL	18.20	ZIN	24.37	FFA	36.33	-	00.00	F
976	CAR	22.13	GEL	45.31	PHA	06.19	XYL	26.37	-	00.00	F
977	MMT	13.99	CAR	24.51	PEC	23.66	STA	24.81	GEL	13.04	F
978	CHS	02.90	GEL	36.80	PHA	48.13	SUA	12.17	-	00.00	F
979	LAP	25.25	SLK	07.45	CAR	23.60	CHS	12.45	XYL	31.25	F
980	LAP	24.99	CNF	30.27	ZIN	17.95	GLY	26.79	-	00.00	F
981	GLY	11.95	FFA	28.89	SUA	04.94	XYL	54.22	-	00.00	F
982	LAP	27.94	AGR	17.87	ALG	10.80	FFA	20.64	PHA	22.74	F
983	PEC	28.71	GEL	34.10	GLU	04.75	GLY	27.54	PHA	04.91	F
984	LAP	25.93	CNF	51.54	PUL	05.00	ZIN	17.54	-	00.00	F
985	CAR	13.28	ZIN	24.59	LAC	19.19	LEV	21.79	SUA	21.14	F

986	SLK	18.37	CAR	31.45	PEC	23.78	GLY	21.44	SRB	04.96	F
987	CMC	19.07	SLK	18.35	PUL	20.54	GLY	20.54	PHA	21.49	F
988	MMT	09.85	GEL	24.91	GLU	20.73	FFA	13.85	XYL	30.66	F
989	CMC	03.28	ALG	31.31	GLY	17.20	PHA	13.20	SUA	35.01	F
990	LAP	24.58	ALG	07.23	PEC	24.10	PUL	09.80	ZIN	34.30	F
991	LAP	18.38	CNF	51.09	CAR	25.54	GLY	04.99	-	00.00	F
992	CNF	20.38	ZIN	46.71	GLY	13.80	XYL	19.11	-	00.00	F
993	LAP	04.90	CNF	26.40	GLY	34.47	XYL	34.23	-	00.00	F
994	CAR	21.73	CHS	15.97	ZIN	19.50	PHA	18.70	SUA	24.10	F
995	ALG	06.88	CHS	16.64	ZIN	07.92	SUA	37.09	XYL	31.48	F
996	LAP	23.92	AGR	05.71	GLY	26.40	LEV	29.38	SUA	14.60	F
997	CMC	28.57	AGR	04.10	GEL	10.35	FFA	10.62	XYL	46.37	F
998	LAP	29.66	CNF	20.37	AGR	22.52	SUA	15.81	XYL	11.64	F
999	LAP	31.65	CNF	03.55	SLK	09.00	ALG	29.95	LAC	25.85	F
1000	PUL	31.87	ZIN	03.90	SUA	09.05	XYL	55.19	-	00.00	F
1001	CAR	25.11	PEC	29.36	GEL	26.67	ZIN	13.97	LAC	04.88	F
1002	CNF	11.19	ZIN	11.11	FFA	29.67	LAC	21.22	LEV	26.82	F
1003	LAP	20.66	CNF	16.58	ZIN	28.26	GLY	34.51	-	00.00	F
1004	PUL	42.80	ZIN	12.40	GLY	30.75	XYL	14.05	-	00.00	F
1005	CNF	47.98	GEL	22.77	LEV	09.88	SUA	19.36	-	00.00	F
1006	LAP	29.58	CNF	03.09	ZIN	18.78	GLY	20.22	LEV	28.34	F
1007	CMC	18.49	AGR	17.75	ALG	18.65	CAR	24.70	LAC	20.42	F
1008	ZIN	27.53	GLY	04.97	LAC	43.39	SUA	24.11	-	00.00	F
1009	LAP	40.16	CNF	07.82	ALG	20.20	GEL	11.47	FFA	20.35	F
1010	LAP	30.34	AGR	31.23	GEL	28.40	LAC	10.03	-	00.00	F
1011	GEL	18.91	ZIN	17.30	FFA	04.94	LAC	29.80	SUA	29.06	F
1012	MMT	09.74	CMC	06.43	GLU	45.42	PHA	22.76	SUA	15.66	F
1013	MMT	02.84	CAR	29.57	FFA	42.31	LEV	25.28	-	00.00	F
1014	GLY	27.20	FFA	10.40	LAC	26.85	LEV	17.90	XYL	17.65	F
1015	ALG	26.53	CHS	02.51	GEL	09.75	GLU	61.21	-	00.00	F

1016	CAR	16.46	CHS	14.14	GEL	59.87	ZIN	09.53	-	00.00	F
1017	CAR	26.43	CHS	14.08	GEL	20.44	GLY	26.70	FFA	12.35	F
1018	PUL	22.05	GLY	23.85	LEV	24.85	SUA	13.55	XYL	15.70	F
1019	CMC	18.18	GEL	27.69	GLY	31.32	PHA	22.81	-	00.00	F
1020	LAP	26.85	MMT	31.95	CMC	03.05	GEL	09.44	FFA	28.71	F
1021	MMT	29.20	PUL	17.45	GLY	28.51	LEV	24.84	-	00.00	F
1022	LAP	29.34	CNF	24.70	ALG	15.18	LAC	28.59	SUA	02.19	F
1023	ALG	15.15	CHS	03.32	PUL	08.60	GLY	40.54	LAC	32.39	F
1024	GEL	13.47	FFA	23.71	LAC	24.36	LEV	20.41	XYL	18.06	F
1025	LAP	04.98	CNF	55.37	ZIN	21.60	GLY	18.06	-	00.00	F
1026	CNF	31.25	ZIN	28.80	GLY	05.20	XYL	34.75	-	00.00	F
1027	CAR	11.87	GEL	12.41	LEV	39.38	SUA	04.98	XYL	31.36	F
1028	LAP	26.55	CNF	12.24	GLY	24.45	XYL	36.75	-	00.00	F
1029	LAP	33.67	GLU	04.98	GLY	34.86	SUA	26.49	-	00.00	F
1030	CAR	16.27	ZIN	16.26	GLY	62.47	XYL	05.00	-	00.00	F
1031	MMT	42.11	LEV	31.25	SUA	04.96	XYL	21.68	-	00.00	F
1032	LAP	17.11	CMC	42.27	AGR	13.94	GEL	06.62	SUA	20.05	F
1033	MMT	03.03	ALG	04.88	STA	30.90	GLY	29.18	SUA	32.01	F
1034	CAR	24.86	PEC	26.10	GLU	35.34	LAC	08.40	SUA	05.30	F
1035	ALG	27.05	CHS	28.42	GEL	18.86	GLU	20.68	LEV	04.98	F
1036	ALG	09.30	PEC	37.78	PUL	13.94	LEV	21.44	SRB	17.54	F
1037	CMC	09.38	GEL	28.47	ZIN	26.50	LAC	16.10	XYL	19.55	F
1038	CNF	04.00	CAR	06.33	FFA	29.28	SUA	60.40	-	00.00	F
1039	GLU	09.43	XYL	90.57	-	00.00	-	00.00	-	00.00	F
1040	ALG	27.23	GEL	37.93	SUA	29.46	XYL	05.38	-	00.00	F
1041	LAP	20.15	MMT	03.89	CNF	40.32	ZIN	27.40	LAC	08.25	F
1042	GLU	17.35	ZIN	04.90	LAC	25.39	LEV	18.04	PHA	34.31	F
1043	LAP	13.81	PUL	19.41	FFA	19.41	LAC	23.01	LEV	24.36	F
1044	CNF	35.69	LAC	27.75	LEV	36.56	-	00.00	-	00.00	F
1045	CNF	16.76	CAR	13.48	STA	12.95	ZIN	23.97	SRB	32.83	F

1046	LAP	17.07	GLU	07.21	ZIN	54.77	FFA	20.96	-	00.00	F
1047	CAR	22.47	GLY	05.01	FFA	41.19	LEV	04.96	XYL	26.37	F
1048	MMT	12.82	SLK	16.14	LAC	31.18	LEV	12.84	XYL	27.03	F
1049	LAP	14.89	CMC	29.71	PHA	16.80	SRB	17.60	SUA	21.00	F
1050	LAP	30.65	CNF	30.50	PUL	17.50	ZIN	21.35	-	00.00	F
1051	CNF	33.78	PUL	16.54	ZIN	20.19	GLY	29.49	-	00.00	F
1052	CNF	17.48	ALG	04.81	CAR	26.23	GLU	04.81	PHA	46.68	F
1053	LAP	27.90	CHS	21.41	LAC	32.01	LEV	18.67	-	00.00	F
1054	CNF	25.37	PUL	10.80	LAC	19.95	LEV	18.85	SUA	25.04	F
1055	LAP	17.69	CNF	24.53	ZIN	10.60	GLY	47.18	-	00.00	F
1056	CMC	65.01	SLK	09.39	CHS	02.60	ZIN	22.99	-	00.00	F
1057	MMT	11.09	CAR	12.93	CHS	28.15	ZIN	23.83	LAC	24.00	F
1058	LAP	38.25	CNF	34.55	PUL	05.85	GLY	21.35	-	00.00	F
1059	CNF	14.04	CAR	03.84	ZIN	13.10	FFA	36.01	LAC	33.01	F
1060	LAP	39.55	CMC	05.22	FFA	35.84	PHA	19.39	-	00.00	F
1061	LAP	12.35	PUL	09.10	ZIN	55.10	GLY	23.45	-	00.00	F
1062	AGR	21.22	CAR	00.98	GEL	12.80	ZIN	34.12	LAC	30.89	F
1063	LAP	26.06	CNF	22.22	PUL	18.56	GLY	33.16	-	00.00	F
1064	ALG	27.50	CHS	10.24	ZIN	35.12	XYL	27.15	-	00.00	F
1065	LAP	39.25	PUL	15.95	ZIN	29.55	GLY	15.25	-	00.00	F
1066	LAP	09.90	SLK	21.44	AGR	32.77	CAR	07.20	GLY	28.69	F
1067	PUL	13.70	ZIN	25.25	GLY	23.55	LAC	18.80	SUA	18.70	F
1068	LAP	18.95	GEL	14.00	LAC	31.00	LEV	15.05	XYL	21.00	F
1069	CAR	21.00	ZIN	14.13	GLY	10.10	SUA	54.78	-	00.00	F
1070	AGR	39.97	GLY	04.99	FFA	26.33	XYL	28.72	-	00.00	F
1071	SLK	08.55	PUL	25.34	ZIN	24.83	GLY	18.69	SUA	22.59	F
1072	CNF	21.99	CAR	02.66	LEV	46.48	SUA	06.43	XYL	22.44	F
1073	AGR	30.29	GLY	14.28	FFA	05.71	LAC	18.75	LEV	30.96	F
1074	MMT	26.88	CMC	09.15	GEL	11.27	PHA	45.40	SUA	07.30	F
1075	LAP	09.56	CMC	22.20	ALG	27.38	ZIN	17.76	SUA	23.10	F

1076	LAP	32.00	CMC	34.79	GLU	27.02	GLY	06.19	-	00.00	F
1077	CAR	09.85	GEL	08.87	GLY	04.96	FFA	31.46	XYL	44.86	F
1078	PUL	17.09	GEL	24.99	FFA	23.39	SUA	14.29	XYL	20.24	F
1079	LAP	34.19	LAC	09.57	LEV	21.73	XYL	34.50	-	00.00	F
1080	MMT	41.47	CMC	22.98	CNF	04.40	SUA	25.66	XYL	05.50	F
1081	CNF	13.51	AGR	02.98	CHS	32.49	PEC	28.96	PHA	22.06	F
1082	LAP	48.37	PUL	08.95	ZIN	20.26	XYL	22.41	-	00.00	F
1083	LAP	45.54	CAR	05.32	LEV	31.68	SUA	12.47	XYL	04.99	F
1084	ZIN	36.75	FFA	07.33	LAC	17.22	LEV	38.70	-	00.00	F
1085	CMC	20.00	AGR	30.60	GEL	23.14	ZIN	03.29	PHA	22.98	F
1086	CNF	20.12	ALG	24.97	CHS	23.15	PUL	28.42	ZIN	03.33	F
1087	CAR	31.97	GLU	25.06	LAC	13.99	SUA	28.98	-	00.00	F
1088	CNF	17.62	STA	36.88	GEL	04.30	GLU	17.44	ZIN	23.76	F
1089	CHS	13.81	PUL	21.70	STA	24.88	SUA	30.35	XYL	09.26	F
1090	LAC	37.67	LEV	29.84	XYL	32.49	-	00.00	-	00.00	F
1091	LAP	25.83	PEC	25.09	FFA	20.05	LEV	04.94	SRB	24.10	F
1092	MMT	02.76	CNF	19.80	SLK	24.27	CAR	25.91	PHA	27.26	F
1093	SLK	04.91	PUL	20.46	GLY	39.65	XYL	34.99	-	00.00	F
1094	AGR	19.46	PUL	04.91	GEL	13.89	GLU	49.70	PHA	12.04	F
1095	LAP	26.61	ALG	10.90	PUL	19.26	GEL	29.11	GLU	14.11	F
1096	CNF	03.11	CAR	29.67	GLY	12.49	XYL	54.73	-	00.00	F
1097	CNF	30.38	GLY	14.54	LAC	25.69	LEV	20.19	XYL	09.20	F
1098	GEL	21.50	ZIN	35.22	FFA	05.99	LAC	04.95	XYL	32.35	F
1099	LAP	20.89	CMC	21.14	GLU	07.70	FFA	27.54	XYL	22.74	F
1100	LAP	17.43	CMC	02.49	AGR	28.35	LAC	34.50	PHA	17.23	F
1101	MMT	20.71	CNF	31.36	CHS	29.95	ZIN	17.98	-	00.00	F
1102	SLK	05.55	GEL	17.86	GLU	23.30	FFA	29.55	XYL	23.75	F
1103	LAP	16.20	CNF	27.21	PUL	04.97	ZIN	51.62	-	00.00	F
1104	GEL	15.96	ZIN	04.96	GLY	07.73	LAC	36.82	PHA	34.54	F
1105	PUL	12.90	ZIN	10.20	GLY	48.85	XYL	28.05	-	00.00	F

1106	AGR	22.28	ALG	11.67	GLU	37.41	GLY	28.64	-	00.00	F
1107	MMT	30.18	CNF	32.74	CAR	24.82	GLY	07.32	LAC	04.95	F
1108	LAP	29.19	CMC	25.13	AGR	14.41	LAC	22.22	LEV	09.05	F
1109	CAR	04.80	GLU	33.89	GLY	35.41	LAC	17.10	LEV	08.80	F
1110	MMT	14.05	PUL	27.85	GLY	05.00	LAC	28.85	SUA	24.25	F
1111	CAR	30.95	ZIN	41.70	GLY	27.35	-	00.00	-	00.00	F
1112	SLK	04.98	AGR	07.09	ALG	16.23	PUL	40.93	LEV	30.77	F
1113	CHS	27.68	PEC	25.02	PUL	23.46	FFA	15.70	LEV	08.13	F
1114	MMT	37.50	CNF	40.08	CAR	06.99	GEL	15.43	-	00.00	F
1115	LAP	25.64	GLY	31.36	XYL	43.00	-	00.00	-	00.00	F
1116	LAP	16.35	AGR	15.75	PUL	20.00	GLY	27.25	LEV	20.65	F
1117	CNF	13.77	ZIN	29.84	GLY	28.84	XYL	27.54	-	00.00	F
1118	LAP	43.25	ALG	20.70	ZIN	23.10	GLY	07.35	XYL	05.60	F
1119	AGR	18.10	ALG	18.90	CHS	16.58	GLY	26.36	FFA	20.06	F
1120	LAP	15.63	CNF	37.31	AGR	22.81	ZIN	24.25	-	00.00	F
1121	CNF	20.54	AGR	25.52	ALG	17.48	CAR	12.77	SUA	23.70	F
1122	LAP	29.15	GEL	28.12	GLY	06.11	SUA	36.62	-	00.00	F
1123	CAR	19.15	GEL	27.20	ZIN	24.80	GLY	15.05	PHA	13.80	F
1124	CNF	03.52	AGR	42.37	GLY	25.59	LAC	04.89	SRB	23.63	F
1125	CMC	24.08	AGR	24.25	CAR	28.51	FFA	17.00	SUA	06.15	F
1126	LAP	18.95	SLK	22.26	CHS	19.93	STA	18.80	XYL	20.06	F
1127	LAP	04.81	CMC	45.61	PEC	13.33	PUL	04.81	STA	31.44	F
1128	MMT	22.71	AGR	04.01	PUL	31.73	LEV	13.91	SUA	27.64	F
1129	CMC	07.94	AGR	23.56	ALG	24.19	PUL	25.45	FFA	18.86	F
1130	LAP	09.74	CNF	25.24	AGR	30.31	ZIN	02.59	FFA	32.11	F
1131	CAR	18.54	GEL	34.42	ZIN	04.93	LEV	20.22	XYL	21.89	F
1132	LAP	27.41	MMT	25.80	AGR	18.83	LEV	27.97	-	00.00	F
1133	CMC	09.45	CNF	25.59	LAC	09.75	PHA	31.70	XYL	23.50	F
1134	CNF	21.94	AGR	08.47	ALG	28.44	LEV	30.39	PHA	10.75	F
1135	CNF	11.49	PUL	28.10	ZIN	28.05	XYL	32.35	-	00.00	F

1136	SLK	18.85	ALG	16.35	STA	29.14	LAC	18.30	XYL	17.35	F
1137	ALG	13.16	CAR	21.15	CHS	24.20	ZIN	25.66	SRB	15.82	F
1138	CNF	11.80	CAR	26.16	CHS	26.93	PUL	06.85	XYL	28.25	F
1139	MMT	03.08	ALG	07.12	CAR	44.42	PEC	33.59	SUA	11.79	F
1140	AGR	33.40	ZIN	08.40	LEV	18.55	PHA	16.85	XYL	22.80	F
1141	SLK	26.01	PUL	10.52	GLU	12.16	SUA	51.31	-	00.00	F
1142	LAP	35.69	SLK	06.24	AGR	28.46	SUA	29.61	-	00.00	F
1143	CMC	13.59	SLK	33.78	GLY	20.73	LEV	31.90	-	00.00	F
1144	ALG	22.82	PUL	21.34	GLU	31.20	GLY	22.12	FFA	02.52	F
1145	LAP	04.89	CMC	19.29	SLK	28.11	GLY	29.04	SUA	18.68	F
1146	CAR	10.00	PUL	12.75	GEL	44.64	ZIN	08.00	LEV	24.60	F
1147	LAP	04.96	CMC	39.89	ALG	33.66	FFA	15.79	XYL	05.71	F
1148	MMT	25.74	ALG	22.22	PEC	16.28	GLU	23.18	SUA	12.59	F
1149	LAP	05.75	CAR	28.54	GEL	21.29	ZIN	29.93	FFA	14.49	F
1150	CAR	16.34	GEL	18.16	GLY	21.40	LEV	16.70	SUA	27.40	F
1151	CNF	36.73	ZIN	37.76	GLY	11.25	XYL	14.25	-	00.00	F
1152	GEL	03.26	GLU	79.55	GLY	04.88	FFA	07.28	LAC	05.03	F
1153	LAP	04.88	GEL	23.98	LEV	17.42	SUA	32.50	XYL	21.23	F
1154	LAP	37.95	ZIN	36.85	GLY	19.50	XYL	05.70	-	00.00	F
1155	CMC	08.85	ALG	54.02	CAR	15.12	ZIN	13.40	XYL	08.60	F
1156	FFA	22.90	LAC	17.60	LEV	26.00	SUA	14.55	XYL	18.95	F
1157	CMC	06.18	AGR	16.88	ALG	36.70	FFA	24.74	SRB	15.49	F
1158	LAP	18.40	CNF	17.06	CAR	24.80	FFA	13.20	SUA	26.55	F
1159	CHS	12.55	STA	20.46	GEL	10.20	GLU	37.00	XYL	19.79	F
1160	LAP	07.15	ALG	29.85	ZIN	19.64	GLY	08.10	PHA	35.26	F
1161	CMC	05.95	CHS	23.61	LAC	42.27	PHA	18.26	XYL	09.90	F
1162	LAP	26.59	CNF	08.22	ZIN	08.75	LEV	32.89	XYL	23.55	F
1163	CMC	37.60	ALG	13.79	CAR	20.33	PHA	28.28	-	00.00	F
1164	CNF	21.86	CAR	35.14	ZIN	35.10	XYL	07.90	-	00.00	F
1165	ALG	15.59	ZIN	10.30	GLY	32.77	FFA	19.30	LEV	22.04	F

1166	CMC	22.81	ALG	13.15	CHS	10.60	GLU	26.43	ZIN	27.01	F
1167	LAP	10.68	CMC	18.50	CAR	22.60	CHS	17.56	LAC	30.66	F
1168	AGR	24.36	ZIN	33.18	SUA	31.50	XYL	10.95	-	00.00	F
1169	MMT	27.25	AGR	34.60	SUA	16.42	XYL	21.73	-	00.00	F
1170	CNF	43.32	PUL	10.65	GLY	23.14	XYL	22.89	-	00.00	F
1171	LAP	20.90	GEL	13.80	FFA	20.40	LEV	21.05	SUA	23.85	F
1172	LAP	37.74	MMT	09.54	ALG	40.99	CAR	05.17	XYL	06.55	F
1173	LAP	33.21	CHS	11.23	GEL	11.44	ZIN	23.47	LAC	20.66	F
1174	CNF	18.22	ZIN	33.89	GLY	12.85	XYL	35.04	-	00.00	F
1175	MMT	18.10	CHS	43.70	ZIN	10.85	GLY	02.57	LAC	24.78	F
1176	CNF	21.45	CAR	10.29	GLU	05.90	GLY	32.40	XYL	29.95	F
1177	LAP	33.11	AGR	18.28	PUL	09.65	ZIN	24.51	SUA	14.45	F
1178	MMT	20.11	CAR	12.00	PUL	23.10	ZIN	18.40	GLY	26.40	F
1179	GEL	22.67	FFA	22.41	LAC	25.36	LEV	20.51	SUA	09.05	F
1180	LAP	09.75	PUL	12.35	ZIN	56.15	XYL	21.75	-	00.00	F
1181	CNF	31.59	PUL	30.70	GLY	04.97	SUA	27.08	XYL	05.66	F
1182	GEL	42.43	GLY	17.23	LAC	32.03	LEV	08.31	-	00.00	F
1183	MMT	06.05	CNF	08.61	CHS	30.18	STA	27.07	FFA	28.10	F
1184	LAP	12.50	SLK	28.75	ALG	22.85	PUL	11.45	SUA	24.45	F
1185	CNF	20.32	PEC	30.54	GEL	19.44	FFA	24.79	LEV	04.92	F
1186	CMC	04.18	SLK	04.95	CAR	15.96	LAC	47.55	LEV	27.36	F
1187	GLY	27.53	FFA	24.85	LAC	22.02	SUA	25.61	-	00.00	F
1188	AGR	08.64	PUL	26.62	LEV	34.70	PHA	30.05	-	00.00	F
1189	MMT	16.31	AGR	26.75	CAR	24.06	CHS	08.83	FFA	24.05	F
1190	MMT	25.82	CHS	21.01	PUL	10.66	LAC	29.81	LEV	12.69	F
1191	CNF	17.97	CAR	14.44	FFA	27.72	PHA	30.32	XYL	09.56	F
1192	AGR	31.52	ALG	13.90	CAR	26.83	PUL	06.20	LEV	21.55	F
1193	MMT	23.09	CNF	17.62	PUL	09.05	GLU	18.15	GLY	32.09	F
1194	MMT	27.48	GEL	27.29	ZIN	12.99	LAC	21.84	LEV	10.40	F
1195	CMC	18.55	SLK	16.30	CHS	14.70	PHA	34.20	SUA	16.25	F

1196	LAP	21.95	CMC	08.01	AGR	26.26	PEC	09.56	GLU	34.21	F
1197	PUL	04.94	LAC	30.29	LEV	34.14	PHA	25.44	SUA	05.19	F
1198	CNF	18.34	CHS	26.35	GLY	29.35	LEV	21.05	SUA	04.91	F
1199	LAP	51.66	CNF	12.03	PUL	11.80	GLY	24.51	-	00.00	F
1200	LAP	50.10	CAR	38.14	ZIN	06.77	XYL	04.98	-	00.00	F
1201	CMC	08.93	ZIN	03.31	LAC	21.63	PHA	25.10	XYL	41.03	F
1202	CHS	30.67	FFA	08.50	LAC	30.32	PHA	06.70	SUA	23.81	F
1203	CMC	04.83	CAR	21.61	CHS	09.05	GLU	33.11	LEV	31.41	F
1204	MMT	29.59	SLK	22.05	GEL	20.90	GLY	18.40	FFA	09.05	F
1205	CNF	11.97	PUL	23.96	GLY	23.01	XYL	41.07	-	00.00	F
1206	CMC	22.36	SLK	08.81	CAR	18.90	LEV	49.93	-	00.00	F
1207	CNF	04.92	SLK	30.19	AGR	05.85	CHS	29.56	GLY	29.49	F
1208	LAP	05.90	PUL	34.80	GLY	24.80	XYL	34.50	-	00.00	F
1209	MMT	24.89	CAR	03.31	ZIN	17.75	GLY	40.40	XYL	13.65	F
1210	MMT	20.38	PUL	22.80	GEL	20.47	GLY	13.75	LAC	22.60	F
1211	LAP	45.20	PUL	14.20	ZIN	31.05	XYL	09.55	-	00.00	F
1212	CNF	12.84	ZIN	13.20	GLY	16.05	XYL	57.91	-	00.00	F
1213	CMC	16.98	CAR	05.79	ZIN	32.37	LEV	08.60	SUA	36.26	F
1214	CNF	21.40	PUL	38.20	ZIN	12.85	XYL	27.55	-	00.00	F
1215	CNF	04.51	CAR	31.35	GLY	12.80	LAC	34.69	XYL	16.65	F
1216	CAR	44.31	PUL	08.15	ZIN	27.04	GLY	20.50	-	00.00	F
1217	AGR	04.75	ALG	35.00	GLU	08.90	FFA	51.36	-	00.00	F
1218	MMT	20.47	ALG	25.84	CAR	30.48	PHA	23.21	-	00.00	F
1219	LAP	47.00	MMT	22.82	LEV	30.19	-	00.00	-	00.00	F
1220	CMC	19.64	CAR	28.53	PEC	24.08	ZIN	23.20	LAC	04.54	F
1221	AGR	24.80	CAR	12.45	GEL	15.16	ZIN	21.80	SRB	25.79	F
1222	CNF	30.36	SLK	21.40	GLU	13.14	LEV	20.45	XYL	14.65	F
1223	CNF	25.38	AGR	22.52	FFA	04.92	LAC	13.84	PHA	33.35	F
1224	CNF	14.65	ALG	26.26	CHS	04.50	STA	26.68	FFA	27.91	F
1225	CMC	07.87	ALG	27.82	FFA	21.42	LAC	14.91	LEV	27.97	F

1226	LAP	18.21	SLK	24.70	CAR	50.64	XYL	06.44	-	00.00	F
1227	MMT	27.78	SLK	05.95	AGR	04.52	ALG	31.35	ZIN	30.40	F
1228	LAP	35.33	CNF	08.06	PUL	09.89	GLY	46.72	-	00.00	F
1229	CAR	30.72	GEL	29.95	FFA	22.59	SUA	16.74	-	00.00	F
1230	MMT	20.17	SLK	12.65	GEL	16.33	LEV	17.95	SUA	32.90	F
1231	LAP	34.45	ZIN	32.05	GLY	15.40	XYL	18.10	-	00.00	F
1232	ALG	29.26	CAR	10.88	ZIN	17.40	LEV	29.26	XYL	13.20	F
1233	CNF	39.90	CHS	31.39	GEL	03.32	FFA	11.07	SUA	14.31	F
1234	CNF	32.51	CAR	11.15	GEL	22.14	GLY	27.45	SUA	06.75	F
1235	CMC	10.98	ZIN	27.73	FFA	26.13	LAC	04.15	XYL	31.00	F
1236	CMC	26.43	AGR	29.61	CHS	02.48	ZIN	13.04	GLY	28.44	F
1237	CMC	19.84	GLU	11.51	GLY	32.57	FFA	19.66	PHA	16.41	F
1238	LAP	12.05	CMC	32.02	SLK	20.59	GLY	05.10	FFA	30.24	F
1239	ALG	02.87	CAR	33.87	CHS	22.59	LAC	21.80	SRB	18.86	F
1240	CHS	02.53	GLU	14.43	ZIN	76.57	XYL	06.47	-	00.00	F
1241	CNF	12.26	AGR	24.97	CHS	28.64	GLU	08.99	GLY	25.14	F
1242	PUL	24.70	FFA	21.53	LAC	25.40	XYL	28.37	-	00.00	F
1243	LAP	31.37	CAR	27.08	GEL	18.08	GLY	16.41	PHA	07.05	F
1244	CMC	17.38	GLU	23.21	PHA	07.10	SUA	10.00	XYL	42.31	F
1245	LAP	12.60	CNF	29.89	GLU	15.54	GLY	13.75	LEV	28.21	F
1246	LAP	71.54	CNF	03.07	ZIN	10.11	XYL	15.28	-	00.00	F
1247	LAP	09.33	CMC	29.25	ZIN	25.39	PHA	36.03	-	00.00	F
1248	AGR	00.45	CAR	41.26	ZIN	24.99	FFA	25.45	SUA	07.86	F
1249	MMT	17.83	SLK	29.81	GEL	04.34	GLU	13.81	LEV	34.22	F
1250	MMT	26.95	GEL	03.32	ZIN	24.92	LAC	07.58	XYL	37.23	F
1251	CMC	30.24	SLK	24.74	CHS	22.14	GEL	07.43	XYL	15.44	F
1252	LAP	16.59	GEL	16.59	ZIN	09.73	SUA	20.99	XYL	36.09	F
1253	MMT	24.98	CNF	19.15	ZIN	19.01	FFA	25.81	LEV	11.05	F
1254	MMT	12.09	PUL	09.70	GEL	33.50	GLY	22.25	SUA	22.45	F
1255	LAP	12.29	PUL	06.05	FFA	35.33	LEV	32.73	SUA	13.59	F

1256	SLK	27.56	AGR	04.88	CHS	12.41	GLU	28.44	XYL	26.71	F
1257	STA	29.12	GEL	23.97	LAC	03.85	LEV	14.71	XYL	28.35	F
1258	MMT	11.68	CHS	06.43	GEL	03.57	GLU	69.63	GLY	08.70	F
1259	LAP	40.46	CAR	07.10	PUL	07.32	FFA	40.22	XYL	04.91	F
1260	CMC	14.95	CAR	13.64	FFA	02.43	LAC	34.32	LEV	34.66	F
1261	MMT	12.60	PUL	15.19	LAC	33.20	XYL	39.01	-	00.00	F
1262	CNF	21.75	CHS	18.12	GLU	13.30	FFA	23.84	LAC	22.99	F
1263	AGR	16.38	ALG	11.80	CAR	25.07	FFA	14.10	PHA	32.65	F
1264	MMT	26.09	CNF	31.21	ALG	03.53	GLU	05.38	SRB	33.79	F
1265	AGR	42.28	ALG	05.64	GEL	16.00	ZIN	06.14	LEV	29.95	F
1266	MMT	15.04	CNF	24.39	LEV	05.25	SUA	17.16	XYL	38.16	F
1267	MMT	20.89	AGR	22.85	ALG	19.55	GLY	28.55	PHA	08.15	F
1268	MMT	14.17	AGR	16.45	GEL	27.40	ZIN	33.97	SUA	08.00	F
1269	CNF	32.32	PUL	05.02	GEL	36.65	LAC	26.01	-	00.00	F
1270	PUL	17.51	LAC	16.04	LEV	35.48	XYL	30.96	-	00.00	F
1271	CNF	22.55	PUL	07.30	GLY	39.90	XYL	30.25	-	00.00	F
1272	CAR	25.26	CHS	02.47	GEL	19.76	PHA	28.06	XYL	24.45	F
1273	LAP	28.31	CHS	20.53	GLU	21.29	GLY	22.96	LAC	06.90	F
1274	ZIN	23.22	FFA	28.59	LEV	27.52	XYL	20.66	-	00.00	F
1275	LAP	17.50	CMC	26.79	CNF	10.92	ALG	18.99	GEL	25.79	F
1276	LAP	26.90	CAR	20.88	CHS	04.07	GEL	14.30	PHA	33.85	F
1277	LAP	04.89	PUL	33.04	GLY	34.36	XYL	27.71	-	00.00	F
1278	MMT	09.17	CNF	18.78	GEL	33.70	ZIN	15.90	SUA	22.45	F
1279	SLK	28.55	CAR	08.21	GEL	12.57	ZIN	32.67	SUA	18.00	F
1280	ALG	22.29	CAR	20.58	GEL	14.54	LEV	19.49	SUA	23.09	F
1281	LAP	18.25	CAR	09.84	ZIN	11.27	LAC	14.70	PHA	45.95	F
1282	LAP	11.11	MMT	10.98	AGR	54.08	CHS	23.83	-	00.00	F
1283	SLK	10.53	GEL	26.76	GLU	34.47	ZIN	28.24	-	00.00	F
1284	LAP	19.70	CNF	09.23	PEC	29.96	GEL	10.30	SUA	30.81	F
1285	MMT	11.10	CMC	19.43	GLU	25.70	LAC	06.20	SUA	37.57	F

1286	CNF	03.10	PUL	21.46	FFA	40.33	SUA	35.10	-	00.00	F
1287	CHS	26.49	STA	16.93	ZIN	22.95	GLY	04.88	SRB	28.76	F
1288	CNF	35.17	GEL	15.09	GLU	18.39	XYL	31.35	-	00.00	F
1289	CMC	17.98	AGR	02.50	CHS	22.97	GLY	56.55	-	00.00	F
1290	CNF	14.00	PUL	55.28	GLY	04.96	XYL	25.75	-	00.00	F
1291	CNF	03.88	AGR	12.82	ZIN	10.26	GLY	19.24	LEV	53.81	F
1292	GLY	49.17	LEV	07.36	SUA	19.90	XYL	23.58	-	00.00	F
1293	MMT	03.69	GLY	11.81	LAC	29.47	LEV	05.45	SUA	49.58	F
1294	CMC	12.44	SLK	17.67	AGR	36.41	GLY	04.94	FFA	28.54	F
1295	MMT	23.01	PUL	20.00	ZIN	11.70	GLY	25.20	SUA	20.10	F
1296	LAP	19.16	PEC	30.80	FFA	04.29	SRB	38.52	SUA	07.23	F
1297	LAP	54.03	CMC	10.38	GEL	27.57	XYL	08.03	-	00.00	F
1298	SLK	31.61	CHS	21.38	ZIN	41.98	LAC	05.03	-	00.00	F
1299	ALG	31.16	GLU	13.13	GLY	21.29	FFA	34.42	-	00.00	F
1300	MMT	23.14	SLK	14.71	STA	15.08	PHA	30.62	SRB	16.46	F
1301	CNF	07.56	ZIN	27.90	LEV	23.05	SUA	23.60	XYL	17.90	F
1302	CMC	12.42	SLK	12.94	ALG	23.74	STA	28.65	PHA	22.24	F
1303	MMT	21.99	SLK	24.65	AGR	10.00	FFA	19.90	SUA	23.45	F
1304	LAP	31.88	MMT	23.02	CMC	40.11	PHA	04.99	-	00.00	F
1305	CNF	21.48	AGR	16.29	ZIN	22.84	LEV	21.23	XYL	18.16	F
1306	MMT	25.31	ALG	12.35	CAR	24.27	GLY	12.75	LAC	25.32	F
1307	LAP	34.02	CNF	12.50	AGR	14.23	ALG	18.43	FFA	20.82	F
1308	ALG	28.14	CHS	13.44	LEV	21.74	PHA	20.44	XYL	16.24	F
1309	LAP	30.33	CNF	34.60	CHS	00.65	FFA	20.03	SUA	14.40	F
1310	LAP	27.71	CNF	28.12	LEV	33.81	PHA	10.35	-	00.00	F
1311	LAP	32.70	CAR	07.28	GLU	06.82	ZIN	25.10	SRB	28.10	F
1312	LAP	18.45	AGR	24.06	ALG	20.16	CHS	19.88	LAC	17.45	F
1313	CMC	18.18	ALG	20.10	GEL	21.67	GLY	23.35	PHA	16.70	F
1314	LAP	09.40	CNF	20.52	GLU	25.06	ZIN	29.27	XYL	15.75	F
1315	CNF	15.93	CHS	28.36	PUL	19.89	ZIN	09.53	FFA	26.29	F

1316	AGR	14.93	CAR	11.32	CHS	14.95	GEL	36.76	FFA	22.04	F
1317	AGR	26.35	CHS	22.92	PUL	15.80	ZIN	09.93	SUA	25.00	F
1318	PUL	30.24	GEL	13.26	FFA	06.10	PHA	07.35	SRB	43.04	F
1319	GEL	07.40	LAC	11.40	PHA	37.55	SUA	22.50	XYL	21.15	F
1320	MMT	30.66	AGR	30.88	CHS	32.03	XYL	06.44	-	00.00	F
1321	LAP	42.67	PUL	10.36	GLY	22.81	XYL	24.16	-	00.00	F
1322	LAP	17.81	AGR	11.71	ALG	35.07	ZIN	30.44	LAC	04.97	F
1323	LAP	23.85	PUL	13.65	GLY	34.10	XYL	28.40	-	00.00	F
1324	LAP	31.55	PUL	15.10	ZIN	32.45	GLY	20.90	-	00.00	F
1325	CAR	02.62	GEL	03.28	ZIN	29.77	LAC	34.99	XYL	29.33	F
1326	CMC	29.00	AGR	07.59	CHS	02.48	LAC	14.14	XYL	46.79	F
1327	CNF	08.06	GEL	29.10	FFA	19.60	LEV	27.00	XYL	16.25	F
1328	SLK	15.70	AGR	20.60	ALG	08.60	GLU	24.14	SRB	30.95	F
1329	MMT	29.80	CMC	19.30	CNF	30.12	PEC	16.84	SUA	03.93	F
1330	LAP	10.40	MMT	28.26	PUL	26.50	GEL	21.23	GLY	13.60	F
1331	MMT	09.76	CAR	18.08	PUL	26.31	GEL	22.44	ZIN	23.41	F
1332	MMT	07.75	CMC	35.65	PEC	44.28	LAC	07.41	XYL	04.90	F
1333	LAP	13.16	ZIN	21.09	GLY	04.93	XYL	60.82	-	00.00	F
1334	LAP	25.90	SLK	16.35	ZIN	12.24	FFA	31.86	PHA	13.65	F
1335	LAP	13.80	PUL	15.60	GLY	23.85	XYL	46.75	-	00.00	F
1336	MMT	19.67	ALG	46.27	LAC	05.02	PHA	29.04	-	00.00	F
1337	AGR	25.57	PEC	31.52	GLU	03.88	LAC	05.73	PHA	33.31	F
1338	MMT	06.84	PUL	21.19	ZIN	33.59	LAC	33.39	XYL	05.00	F
1339	LAP	22.71	CNF	16.85	ZIN	22.04	FFA	18.15	LEV	20.25	F
1340	GEL	20.84	GLY	27.16	SUA	15.76	XYL	36.23	-	00.00	F
1341	CNF	17.01	SLK	25.65	AGR	24.16	CHS	33.18	-	00.00	F
1342	LAP	05.55	PUL	31.20	ZIN	35.62	SUA	27.63	-	00.00	F
1343	LAP	39.81	SLK	32.37	PUL	07.04	GLY	05.00	XYL	15.78	F
1344	MMT	24.30	CMC	03.38	SLK	35.81	XYL	36.51	-	00.00	F
1345	MMT	21.62	CMC	39.48	GLU	12.84	ZIN	05.86	SUA	20.19	F

1346	AGR	46.84	ALG	13.99	CHS	05.33	PHA	33.84	-	00.00	F
1347	MMT	27.09	GEL	12.23	FFA	08.40	LAC	25.19	SUA	27.09	F
1348	MMT	22.02	CMC	18.77	AGR	05.48	GLY	26.44	LEV	27.29	F
1349	MMT	18.85	PUL	32.63	ZIN	09.58	GLY	04.89	LEV	34.05	F
1350	GLY	25.73	LAC	18.53	LEV	55.74	-	00.00	-	00.00	F
1351	PUL	26.21	LAC	21.86	LEV	06.30	PHA	18.11	SUA	27.51	F
1352	CMC	32.25	AGR	13.68	CAR	12.19	GLU	23.28	XYL	18.60	F
1353	CAR	24.45	ZIN	12.60	GLY	42.00	XYL	20.95	-	00.00	F
1354	MMT	24.80	CHS	22.79	ZIN	22.42	FFA	08.67	XYL	21.32	F
1355	CNF	15.96	ALG	06.73	CAR	35.41	PUL	19.07	LEV	22.82	F
1356	LAP	11.02	AGR	19.34	ZIN	32.48	FFA	04.88	LAC	32.28	F
1357	LAP	38.27	CNF	05.95	GLY	28.56	XYL	27.21	-	00.00	F
1358	CHS	18.79	GLU	31.64	GLY	12.48	FFA	23.31	XYL	13.77	F
1359	MMT	37.70	CMC	28.66	PHA	06.01	XYL	27.63	-	00.00	F
1360	CNF	29.45	FFA	16.70	LAC	05.50	SUA	42.20	XYL	06.15	F
1361	SLK	21.95	CAR	26.69	GLU	33.46	SUA	08.85	XYL	09.05	F
1362	CNF	45.64	PUL	08.50	ZIN	29.30	GLY	16.55	-	00.00	F
1363	AGR	09.45	CAR	24.08	ZIN	29.91	GLY	07.55	FFA	29.01	F
1364	LAP	75.95	CNF	05.02	GLY	19.03	-	00.00	-	00.00	F
1365	MMT	05.33	CMC	34.64	SLK	22.19	GEL	06.60	FFA	31.24	F
1366	CAR	06.90	FFA	35.98	SUA	21.70	XYL	35.43	-	00.00	F
1367	LAP	19.39	CNF	17.86	ZIN	04.92	FFA	46.70	LAC	11.12	F
1368	LAP	41.53	PUL	10.74	XYL	47.73	-	00.00	-	00.00	F
1369	AGR	23.22	CHS	11.78	GEL	40.30	LEV	19.55	PHA	05.15	F
1370	LAP	09.75	PUL	29.40	ZIN	12.75	GLY	48.10	-	00.00	F
1371	LAP	07.70	AGR	13.15	PEC	37.79	GEL	14.73	ZIN	26.64	F
1372	MMT	06.57	ALG	31.64	GLU	30.79	LEV	16.45	PHA	14.55	F
1373	GEL	03.29	ZIN	29.73	GLY	11.94	FFA	20.96	PHA	34.08	F
1374	CNF	11.45	LAC	25.04	LEV	18.79	SUA	21.64	XYL	23.09	F
1375	PUL	51.65	ZIN	20.50	GLY	17.25	XYL	10.60	-	00.00	F

1376	LAP	06.81	SLK	26.41	STA	58.61	GEL	03.27	ZIN	04.90	F
1377	LAP	11.98	MMT	35.20	FFA	20.49	SUA	32.32	-	00.00	F
1378	CMC	39.10	PUL	16.18	GLU	05.28	LEV	22.68	PHA	16.76	F
1379	CNF	22.49	LEV	17.12	SUA	33.47	XYL	26.92	-	00.00	F
1380	SLK	20.60	AGR	08.45	GEL	04.50	GLU	32.45	XYL	34.00	F
1381	LAP	33.53	CNF	29.40	AGR	32.09	PHA	04.98	-	00.00	F
1382	ZIN	21.14	LEV	26.14	PHA	21.59	SUA	18.74	XYL	12.39	F
1383	CMC	10.82	ZIN	09.93	LEV	52.81	SUA	26.43	-	00.00	F
1384	LAP	06.42	CNF	28.75	CAR	33.01	SUA	31.83	-	00.00	F
1385	MMT	13.37	CNF	32.73	ZIN	22.40	LEV	22.60	XYL	08.90	F
1386	CNF	27.29	PUL	11.95	GLY	31.10	XYL	29.65	-	00.00	F
1387	LAP	24.75	AGR	06.60	STA	19.74	GLY	26.25	SRB	22.65	F
1388	PUL	12.48	GLY	15.04	FFA	07.37	LEV	65.12	-	00.00	F
1389	ALG	14.18	CHS	28.41	PUL	19.75	FFA	19.49	LEV	18.18	F
1390	CNF	08.09	GEL	08.40	GLY	29.34	LAC	30.44	XYL	23.74	F
1391	SLK	19.58	GLY	51.33	FFA	07.26	LAC	21.83	-	00.00	F
1392	MMT	20.94	SLK	04.91	AGR	40.30	LEV	25.81	PHA	08.05	F
1393	CNF	12.55	PEC	40.09	ZIN	09.09	GLY	22.97	LAC	15.30	F
1394	CAR	19.74	LAC	53.90	LEV	26.36	-	00.00	-	00.00	F
1395	PUL	25.91	GEL	16.17	FFA	14.50	LEV	22.86	XYL	20.56	F
1396	ALG	19.90	GEL	03.68	ZIN	31.67	GLY	14.91	LAC	29.84	F
1397	MMT	09.59	CMC	24.17	ALG	24.50	GLU	30.59	LAC	11.15	F
1398	ALG	03.80	GLY	30.65	FFA	19.41	LAC	22.19	SUA	23.96	F
1399	AGR	12.37	CHS	03.85	PEC	19.94	STA	29.85	GLY	33.99	F
1400	CAR	33.91	PUL	22.99	ZIN	04.94	FFA	13.74	SUA	24.42	F
1401	CNF	06.16	GEL	31.13	GLY	14.25	LAC	21.85	SUA	26.60	F
1402	SLK	04.93	AGR	28.11	CAR	15.43	SUA	20.20	XYL	31.34	F
1403	LAP	18.50	PUL	25.15	ZIN	25.00	XYL	31.35	-	00.00	F
1404	ALG	26.36	GEL	19.94	LAC	20.34	LEV	11.11	XYL	22.25	F
1405	MMT	14.91	CNF	21.72	SLK	28.23	FFA	30.24	LEV	04.89	F

1406	ZIN	47.93	GLY	04.98	XYL	47.09	-	00.00	-	00.00	F
1407	LAP	18.55	ZIN	23.45	FFA	14.85	LAC	18.90	SUA	24.25	F
1408	MMT	25.35	GEL	26.59	GLY	04.99	SUA	28.50	XYL	14.57	F
1409	MMT	06.69	AGR	16.58	ALG	19.71	SUA	33.71	XYL	23.31	F
1410	LAP	04.89	SLK	23.77	PUL	10.27	PHA	22.59	XYL	38.48	F
1411	LAP	14.83	GLU	31.83	PHA	06.24	SRB	26.19	SUA	20.92	F
1412	ZIN	69.99	LAC	30.01	-	00.00	-	00.00	-	00.00	F
1413	LAP	04.83	SLK	04.83	PEC	24.03	STA	26.37	GLU	39.94	F
1414	MMT	27.25	PUL	14.54	GLY	27.53	LAC	20.59	XYL	10.09	F
1415	ALG	04.92	GEL	42.95	GLY	21.85	LAC	15.80	XYL	14.47	F
1416	AGR	25.24	CHS	09.65	LEV	04.99	SRB	29.33	XYL	30.78	F
1417	ALG	34.10	PUL	06.60	GLU	12.65	FFA	12.00	XYL	34.65	F
1418	LAP	10.35	AGR	25.02	GEL	08.23	GLY	44.29	LEV	12.11	F
1419	CNF	12.58	PUL	10.80	GEL	65.46	FFA	06.15	LEV	05.00	F
1420	SLK	29.08	GLY	19.78	PHA	51.14	-	00.00	-	00.00	F
1421	CNF	34.30	PUL	50.86	ZIN	04.88	XYL	09.96	-	00.00	F
1422	LAP	45.41	MMT	07.33	CMC	02.51	FFA	44.75	-	00.00	F
1423	MMT	18.33	FFA	23.95	LAC	11.55	LEV	16.70	XYL	29.46	F
1424	AGR	11.50	STA	13.40	GLU	22.58	GLY	24.42	LEV	28.10	F
1425	CNF	11.12	PUL	25.01	ZIN	48.31	XYL	15.55	-	00.00	F
1426	CNF	12.82	GLU	23.76	GLY	31.71	SRB	22.26	XYL	09.45	F
1427	MMT	16.33	CHS	19.80	GEL	08.53	GLU	36.99	PHA	18.35	F
1428	LAP	52.38	PUL	37.99	GLY	04.81	XYL	04.81	-	00.00	F
1429	LAP	34.57	PUL	05.20	ZIN	43.97	XYL	16.26	-	00.00	F
1430	CNF	18.96	CHS	31.42	GEL	05.83	GLU	24.53	LEV	19.25	F
1431	CMC	04.27	CNF	11.09	CAR	56.10	ZIN	28.53	-	00.00	F
1432	LAP	34.01	STA	04.76	ZIN	21.96	LEV	11.37	SRB	27.89	F
1433	LAP	07.55	AGR	16.48	GEL	10.54	FFA	25.26	PHA	40.17	F
1434	CMC	10.64	CHS	24.48	FFA	29.66	XYL	35.22	-	00.00	F
1435	LAP	15.45	CAR	37.30	PUL	14.10	ZIN	33.15	-	00.00	F

1436	PUL	31.75	ZIN	15.45	GLY	08.60	XYL	44.20	-	00.00	F
1437	MMT	08.71	AGR	17.94	PUL	09.95	STA	31.72	PHA	31.69	F
1438	GEL	19.33	ZIN	24.89	FFA	04.88	SUA	39.97	XYL	10.93	F
1439	MMT	20.47	CNF	05.57	PUL	17.91	GEL	26.84	XYL	29.21	F
1440	LAP	13.18	CNF	23.39	CHS	18.97	FFA	28.00	XYL	16.45	F
1441	MMT	15.80	CMC	24.57	GLU	19.29	ZIN	13.50	LAC	26.84	F
1442	MMT	22.66	ALG	20.40	CHS	01.89	PUL	15.23	LAC	39.82	F
1443	CNF	27.02	ZIN	27.41	GLY	24.71	XYL	20.86	-	00.00	F
1444	LAP	43.31	PUL	48.04	XYL	08.64	-	00.00	-	00.00	F
1445	LAP	13.60	PUL	23.45	GEL	08.63	SUA	31.46	XYL	22.85	F
1446	CAR	03.41	PUL	37.76	ZIN	33.96	GLY	24.86	-	00.00	F
1447	CMC	14.47	ZIN	21.43	FFA	22.00	LAC	22.85	XYL	19.25	F
1448	LAP	12.79	PUL	17.19	ZIN	37.28	GLY	32.73	-	00.00	F
1449	LAP	22.99	CMC	30.17	GLY	21.84	PHA	18.75	SUA	06.25	F
1450	LAP	28.57	GEL	03.31	FFA	23.45	LAC	36.52	XYL	08.15	F
1451	LAP	30.25	PUL	28.60	GLY	05.15	XYL	36.00	-	00.00	F
1452	CNF	02.74	ALG	02.70	STA	38.18	ZIN	09.98	XYL	46.41	F
1453	MMT	21.47	CNF	15.76	CAR	02.66	FFA	30.60	LAC	29.50	F
1454	AGR	07.68	GEL	56.52	GLY	10.52	FFA	20.30	SUA	04.99	F
1455	MMT	24.71	CNF	08.28	GEL	33.66	FFA	07.30	SUA	26.05	F
1456	CAR	26.65	CHS	27.51	PUL	19.05	SUA	26.79	-	00.00	F
1457	LAP	11.45	CNF	12.43	SLK	63.57	CHS	06.60	PHA	05.95	F
1458	LAP	12.15	CNF	32.82	PUL	15.94	ZIN	39.09	-	00.00	F
1459	MMT	17.33	CAR	12.94	PEC	29.81	GLU	18.37	PHA	21.55	F
1460	MMT	18.50	CMC	05.15	CAR	13.28	ZIN	09.67	LAC	53.40	F
1461	GEL	41.03	ZIN	12.86	GLY	41.06	LAC	05.04	-	00.00	F
1462	GEL	30.05	GLY	09.61	LAC	17.83	LEV	42.51	-	00.00	F
1463	LAP	52.99	AGR	06.33	GEL	00.28	FFA	35.53	LEV	04.87	F
1464	SLK	05.03	ALG	34.72	PUL	25.46	ZIN	34.79	-	00.00	F
1465	MMT	27.45	CNF	24.77	CHS	13.94	GLY	17.64	LEV	16.19	F

1466	LAP	52.12	PUL	07.10	ZIN	21.84	GLY	18.94	-	00.00	F
1467	CNF	11.55	GEL	20.77	GLY	10.20	FFA	41.21	LAC	16.26	F
1468	LAP	17.00	AGR	19.75	ALG	10.60	GLU	13.40	XYL	39.25	F
1469	GEL	23.89	ZIN	13.39	LAC	14.79	SUA	25.89	XYL	22.04	F
1470	LAP	16.93	CAR	15.46	GLU	55.15	ZIN	04.96	SUA	07.50	F
1471	MMT	14.03	CMC	25.20	CAR	08.45	CHS	23.25	PUL	29.05	F
1472	CHS	30.34	LAC	28.69	LEV	34.52	PHA	06.44	-	00.00	F
1473	LAP	34.46	ZIN	04.91	GLY	06.09	XYL	54.54	-	00.00	F
1474	CMC	30.33	FFA	07.18	LAC	10.65	LEV	46.89	PHA	04.95	F
1475	LAP	31.81	AGR	33.61	CAR	11.94	CHS	18.89	GLU	03.74	F
1476	MMT	50.18	AGR	05.44	PUL	03.96	LAC	29.70	XYL	10.71	F
1477	LAP	16.87	MMT	17.18	AGR	15.54	LEV	23.26	XYL	27.15	F
1478	CHS	28.13	PEC	17.99	GEL	08.38	PHA	33.10	SRB	12.40	F
1479	MMT	28.86	CHS	29.26	GLU	09.27	LAC	04.99	LEV	27.62	F
1480	ALG	29.77	CHS	12.91	GLU	07.43	FFA	28.37	SUA	21.52	F
1481	PUL	10.36	GEL	41.85	LAC	06.93	LEV	04.91	XYL	35.95	F
1482	MMT	02.78	AGR	52.08	PUL	17.72	ZIN	27.41	-	00.00	F
1483	SLK	21.26	ALG	10.76	CHS	20.01	SUA	19.81	XYL	28.16	F
1484	CMC	07.45	STA	25.66	ZIN	20.15	GLY	17.20	FFA	29.55	F
1485	CNF	19.44	CAR	55.90	PUL	09.05	GLY	15.60	-	00.00	F
1486	AGR	05.51	CAR	28.53	LAC	22.48	LEV	43.49	-	00.00	F
1487	AGR	04.85	GEL	23.26	LEV	28.80	SUA	19.70	XYL	23.40	F
1488	AGR	25.16	CHS	20.40	PUL	19.35	ZIN	09.16	FFA	25.93	F
1489	LAP	15.38	GLY	26.33	LAC	27.64	SUA	30.65	-	00.00	F
1490	MMT	16.99	CNF	18.64	FFA	28.14	LEV	15.39	SUA	20.84	F
1491	CNF	21.03	STA	16.16	GLU	03.74	GLY	37.87	LAC	21.20	F
1492	LAP	19.30	AGR	09.88	GLU	25.06	GLY	26.40	SUA	19.35	F
1493	SLK	33.20	CAR	27.49	PHA	10.71	XYL	28.60	-	00.00	F
1494	MMT	18.89	GEL	31.64	GLY	11.80	PHA	27.61	XYL	10.05	F
1495	CNF	05.26	AGR	21.23	PUL	27.90	GEL	23.30	PHA	22.30	F

1496	CAR	43.75	PUL	34.12	ZIN	22.14	-	00.00	-	00.00	F
1497	AGR	28.74	CAR	10.45	CHS	31.12	PHA	09.80	XYL	19.89	F
1498	CHS	18.43	PUL	13.10	GLY	12.40	LEV	27.41	SUA	28.66	F
1499	MMT	27.98	SLK	32.42	CAR	06.24	ZIN	04.98	LAC	28.38	F
1500	CNF	23.76	PUL	17.25	GLY	39.54	XYL	19.45	-	00.00	F
1501	AGR	21.06	PUL	16.86	FFA	27.21	PHA	23.36	XYL	11.51	F
1502	LAP	12.59	CMC	22.21	AGR	19.52	FFA	32.33	PHA	13.34	F
1503	CMC	05.12	ALG	07.47	LAC	53.17	SUA	34.23	-	00.00	F
1504	AGR	23.58	ALG	23.41	ZIN	19.04	FFA	19.66	SUA	14.31	F
1505	LAP	15.20	GEL	18.44	ZIN	33.81	GLY	05.60	LAC	26.95	F
1506	CNF	22.64	GEL	04.35	ZIN	39.29	FFA	33.72	-	00.00	F
1507	CNF	16.25	PUL	26.90	GLY	56.85	-	00.00	-	00.00	F
1508	CAR	31.99	PUL	10.12	ZIN	12.11	FFA	45.78	-	00.00	F
1509	LAP	09.60	CNF	40.37	CAR	45.11	PUL	04.92	-	00.00	F
1510	SLK	33.84	CAR	10.98	PEC	26.24	PUL	06.35	STA	22.59	F
1511	LAP	04.88	CNF	03.67	PUL	18.89	STA	39.18	LAC	33.38	F
1512	GEL	30.52	GLY	06.62	LAC	33.00	SUA	29.86	-	00.00	F
1513	PUL	26.35	GEL	16.07	ZIN	27.47	FFA	30.11	-	00.00	F
1514	MMT	26.18	PEC	28.96	FFA	21.72	PHA	04.89	SRB	18.25	F
1515	CMC	22.51	CNF	23.61	AGR	05.03	LEV	19.81	PHA	29.06	F
1516	CMC	31.98	SLK	05.95	AGR	06.15	LEV	26.31	SUA	29.61	F
1517	LAP	24.62	MMT	02.83	CNF	25.62	LAC	30.06	LEV	16.88	F
1518	CNF	28.69	GLY	44.37	XYL	26.93	-	00.00	-	00.00	F
1519	GEL	22.97	GLU	14.67	GLY	26.80	FFA	17.20	SUA	18.35	F
1520	CHS	20.78	STA	18.56	GLU	03.86	ZIN	35.81	PHA	21.00	F
1521	LAP	25.15	CAR	03.76	PUL	27.05	FFA	28.40	SUA	15.65	F
1522	LAP	04.94	MMT	17.75	CMC	29.23	GLY	13.77	LAC	34.31	F
1523	AGR	02.75	ALG	27.80	CAR	35.28	ZIN	24.97	PHA	09.20	F
1524	MMT	30.03	CHS	13.80	GLY	12.27	LAC	17.21	XYL	26.69	F
1525	LAP	18.80	PUL	30.85	ZIN	22.00	GLY	28.35	-	00.00	F

1526	AGR	43.82	ALG	21.62	CAR	12.09	FFA	17.48	LEV	04.99	F
1527	SLK	39.63	ALG	31.60	PUL	17.72	PHA	11.06	-	00.00	F
1528	CNF	32.80	CAR	29.81	PUL	14.45	ZIN	22.95	-	00.00	F
1529	CMC	23.39	CHS	02.47	LAC	22.87	LEV	34.15	SUA	17.12	F
1530	CAR	38.63	CHS	14.07	PUL	17.30	LAC	11.30	PHA	18.70	F
1531	LAP	29.50	PUL	19.50	GLY	34.35	XYL	16.65	-	00.00	F
1532	MMT	09.96	CAR	03.52	GEL	28.99	FFA	33.19	XYL	24.34	F
1533	AGR	06.69	FFA	39.73	LEV	24.82	SUA	28.45	XYL	00.30	F
1534	CAR	12.55	PUL	62.86	GEL	19.08	ZIN	05.51	-	00.00	F
1535	LAP	31.20	MMT	25.54	CNF	15.86	CAR	02.66	GEL	24.75	F
1536	CNF	21.15	PUL	26.10	GLY	46.05	XYL	06.70	-	00.00	F
1537	LAP	28.00	CNF	25.20	PUL	29.55	XYL	17.25	-	00.00	F
1538	CAR	36.31	PUL	23.63	LAC	32.75	LEV	07.31	-	00.00	F
1539	LAP	04.93	ZIN	06.61	GLY	33.99	XYL	54.46	-	00.00	F
1540	CNF	25.60	SLK	06.65	GLU	06.08	LEV	11.35	SRB	50.31	F
1541	MMT	33.94	ALG	13.60	GEL	21.33	ZIN	06.83	XYL	24.30	F
1542	CAR	09.17	PUL	28.41	GLU	16.59	FFA	45.82	-	00.00	F
1543	LAP	11.85	ZIN	49.80	GLY	15.50	XYL	22.85	-	00.00	F
1544	PEC	24.56	ZIN	26.81	GLY	09.50	LEV	22.46	XYL	16.66	F
1545	CMC	20.72	CAR	13.54	GLU	17.90	PHA	06.30	SUA	41.54	F
1546	LAP	04.95	PUL	18.42	ZIN	47.75	XYL	28.88	-	00.00	F
1547	LAP	06.80	PUL	36.12	ZIN	33.82	GLY	23.26	-	00.00	F
1548	SLK	21.40	CHS	19.05	GLU	22.62	ZIN	19.30	LEV	17.65	F
1549	MMT	19.33	CMC	15.70	AGR	17.92	LAC	27.75	LEV	19.30	F
1550	SLK	62.77	PUL	16.02	LEV	21.22	-	00.00	-	00.00	F
1551	ALG	23.99	CHS	09.05	ZIN	04.63	FFA	37.84	XYL	24.49	F
1552	CMC	16.93	SLK	15.36	GEL	20.04	LAC	12.06	PHA	35.61	F
1553	LAP	23.50	SLK	22.05	ALG	14.85	GLU	19.89	LEV	19.70	F
1554	CAR	10.54	CHS	45.01	PUL	25.80	LAC	08.95	LEV	09.70	F
1555	LAP	20.65	GEL	15.80	GLU	21.57	ZIN	19.67	SUA	22.31	F

1556	CMC	29.52	AGR	02.80	GLU	04.90	GLY	20.75	FFA	42.03	F
1557	SLK	09.30	CAR	26.04	ZIN	23.74	PHA	11.50	SUA	29.41	F
1558	MMT	09.86	SLK	10.90	STA	27.26	LAC	26.84	LEV	25.14	F
1559	CAR	16.27	CHS	26.97	LEV	16.45	PHA	27.08	SUA	13.23	F
1560	PUL	20.35	GEL	18.36	ZIN	11.85	GLY	19.55	SUA	29.90	F
1561	LAP	15.45	PUL	28.65	GEL	14.00	LAC	18.75	SUA	23.15	F
1562	MMT	27.80	GEL	30.74	ZIN	23.16	XYL	18.30	-	00.00	F
1563	MMT	17.83	ALG	14.45	CAR	18.56	ZIN	25.40	LEV	23.76	F
1564	CNF	24.77	PUL	06.85	GLY	62.12	XYL	06.25	-	00.00	F
1565	AGR	19.50	PUL	21.15	GLU	12.70	GLY	19.80	FFA	26.85	F
1566	ALG	21.08	CHS	33.50	GEL	06.55	GLY	15.79	LEV	23.09	F
1567	MMT	07.24	SLK	23.50	CAR	31.15	ZIN	09.45	PHA	28.65	F
1568	AGR	35.36	PUL	11.05	GEL	16.53	ZIN	14.73	FFA	22.34	F
1569	LAP	27.45	MMT	31.08	CNF	37.38	CAR	04.09	-	00.00	F
1570	CNF	24.98	CAR	18.91	PUL	17.90	FFA	18.20	LEV	20.00	F
1571	GEL	05.10	GLY	09.10	LAC	32.20	LEV	28.25	SUA	25.35	F
1572	AGR	07.00	PUL	11.40	GEL	31.43	GLU	22.43	LAC	27.74	F
1573	ALG	17.78	CHS	16.62	GEL	29.60	ZIN	24.49	SUA	11.51	F
1574	LAP	05.16	CNF	03.89	PUL	04.92	GEL	38.88	FFA	47.15	F
1575	CMC	11.50	AGR	13.80	ALG	13.45	PUL	46.23	ZIN	15.03	F
1576	AGR	08.90	CAR	30.00	GLY	26.20	SRB	26.70	SUA	08.20	F
1577	ALG	18.11	CHS	14.39	PUL	26.38	GLU	16.99	SRB	24.13	F
1578	LAP	20.90	CNF	28.47	CAR	20.67	ZIN	29.95	-	00.00	F
1579	SLK	11.30	AGR	31.88	GEL	11.47	LAC	13.15	XYL	32.20	F
1580	PUL	22.35	ZIN	42.55	GLY	29.40	XYL	05.70	-	00.00	F
1581	ALG	09.67	PUL	23.95	GLY	02.14	LEV	45.23	XYL	19.02	F
1582	LAP	29.53	MMT	24.39	PUL	10.39	ZIN	11.59	GLY	24.09	F
1583	CAR	15.87	CHS	32.17	FFA	28.04	LAC	22.76	SUA	01.17	F
1584	SLK	38.68	AGR	02.49	GLY	20.31	FFA	31.01	SUA	07.52	F
1585	MMT	26.81	CMC	25.04	GEL	01.07	FFA	13.03	LEV	34.05	F

1586	ALG	09.89	FFA	56.43	LEV	19.83	SUA	04.95	XYL	08.90	F
1587	PUL	19.25	GLU	12.88	ZIN	26.33	GLY	06.05	XYL	35.50	F
1588	MMT	22.44	CMC	02.62	AGR	16.25	LEV	24.45	SRB	34.24	F
1589	CNF	15.50	AGR	02.84	CAR	29.02	CHS	23.72	LEV	28.93	F
1590	CMC	03.45	AGR	29.52	PEC	22.81	GEL	17.05	GLY	27.18	F
1591	PUL	62.38	ZIN	20.00	GLY	04.96	XYL	12.66	-	00.00	F
1592	LAP	30.87	PUL	35.92	GLY	05.55	XYL	27.66	-	00.00	F
1593	LAP	21.70	GLU	20.65	GLY	25.30	FFA	11.65	XYL	20.70	F
1594	LAP	24.30	CNF	28.10	ZIN	42.45	XYL	05.15	-	00.00	F
1595	AGR	33.25	CAR	29.30	PEC	25.70	PUL	05.05	ZIN	06.70	F
1596	LAP	08.40	CNF	18.13	ZIN	29.86	GLY	43.61	-	00.00	F
1597	LAP	10.10	AGR	04.60	ALG	50.15	GLY	14.50	LAC	20.65	F
1598	LAP	40.51	CNF	28.23	GLY	08.45	XYL	22.81	-	00.00	F
1599	CNF	06.92	PUL	37.61	ZIN	47.82	GLY	07.65	-	00.00	F
1600	LAP	15.80	MMT	18.99	ZIN	19.05	LEV	11.15	SUA	35.01	F
1601	CNF	32.83	AGR	07.09	STA	09.79	PHA	31.46	SRB	18.84	F
1602	SLK	17.40	PUL	13.80	GEL	20.06	GLU	23.30	PHA	25.45	F
1603	ALG	04.94	CHS	27.58	GLY	25.51	LEV	05.88	PHA	36.09	F
1604	PUL	11.11	STA	26.87	ZIN	04.70	GLY	29.70	FFA	27.63	F
1605	CAR	16.08	GEL	36.96	GLU	20.65	FFA	26.30	-	00.00	F
1606	CMC	19.75	PUL	04.92	STA	31.49	ZIN	14.86	SRB	28.98	F
1607	SLK	30.20	ALG	04.98	PUL	15.62	LEV	17.01	SRB	32.19	F
1608	LAP	24.41	CMC	21.69	AGR	23.57	LAC	04.90	LEV	25.43	F
1609	CMC	17.04	SLK	05.00	PUL	27.04	LAC	23.64	LEV	27.29	F
1610	LAP	28.70	ZIN	24.75	GLY	13.15	XYL	33.40	-	00.00	F
1611	MMT	34.84	SLK	09.94	CHS	02.47	PUL	23.65	XYL	29.09	F
1612	SLK	12.95	AGR	08.03	GLY	22.26	PHA	33.56	SUA	23.21	F
1613	LAP	09.76	CMC	16.08	CNF	18.18	ALG	40.05	PHA	15.93	F
1614	MMT	27.36	AGR	27.65	LEV	09.36	PHA	35.63	-	00.00	F
1615	LAP	34.95	PUL	29.40	ZIN	19.05	GLY	16.60	-	00.00	F

1616	MMT	26.90	PUL	06.20	GEL	44.31	FFA	22.59	-	00.00	F
1617	CNF	10.25	PUL	04.96	ZIN	47.18	GLY	37.61	-	00.00	F
1618	LAP	06.58	ALG	52.27	CHS	04.68	LAC	22.21	LEV	14.26	F
1619	LAP	28.87	CNF	11.10	ZIN	49.43	GLY	10.61	-	00.00	F
1620	LAP	28.88	CNF	37.02	PUL	34.10	-	00.00	-	00.00	F
1621	GEL	23.00	GLY	18.60	LAC	07.95	LEV	22.65	XYL	27.80	F
1622	CMC	01.69	CHS	45.60	GEL	00.43	FFA	23.94	LEV	28.34	F
1623	CHS	18.99	PEC	24.99	ZIN	26.94	FFA	17.14	PHA	11.94	F
1624	MMT	32.46	CNF	13.64	PUL	17.30	FFA	07.80	SUA	28.80	F
1625	LAP	16.90	CNF	30.91	FFA	22.21	XYL	29.98	-	00.00	F
1626	PUL	04.99	ZIN	58.96	GLY	23.41	XYL	12.63	-	00.00	F
1627	CNF	25.90	SLK	21.55	PEC	22.10	PUL	10.20	SUA	20.25	F
1628	LAP	21.56	MMT	21.97	FFA	08.15	LAC	30.36	SUA	17.96	F
1629	CNF	03.11	CAR	14.75	GLY	27.40	FFA	22.55	LEV	32.20	F
1630	PUL	36.50	ZIN	20.30	GLY	18.05	XYL	25.15	-	00.00	F
1631	CAR	34.00	GEL	12.54	GLU	25.25	FFA	04.11	XYL	24.10	F
1632	GEL	17.20	ZIN	19.70	FFA	27.90	SUA	27.20	XYL	08.00	F
1633	MMT	51.83	GLY	09.86	FFA	06.76	PHA	31.56	-	00.00	F
1634	MMT	24.18	CMC	05.83	GLU	16.34	FFA	32.45	PHA	21.20	F
1635	ALG	25.49	CAR	07.84	LEV	20.24	PHA	29.49	SUA	16.94	F
1636	AGR	33.08	GEL	11.91	GLU	19.03	FFA	04.99	XYL	30.99	F
1637	CMC	32.62	CNF	05.82	CAR	02.67	PUL	30.55	PHA	28.35	F
1638	STA	28.20	ZIN	24.50	GLY	20.95	LEV	13.00	SUA	13.35	F
1639	LAP	49.43	AGR	14.65	LAC	16.20	LEV	19.72	-	00.00	F
1640	LAP	23.05	CAR	10.24	CHS	25.22	PUL	10.85	FFA	30.65	F
1641	LAP	33.06	CNF	28.87	AGR	04.02	CHS	29.12	FFA	04.93	F
1642	CNF	37.18	AGR	02.48	CAR	27.28	ZIN	13.27	XYL	19.80	F
1643	PUL	16.95	ZIN	37.30	GLY	29.30	XYL	16.45	-	00.00	F
1644	CAR	37.17	PEC	15.16	GLU	15.80	ZIN	12.46	SRB	19.41	F
1645	LAP	15.72	SLK	28.38	LAC	45.48	PHA	10.41	-	00.00	F

1646	MMT	05.31	GEL	23.81	GLY	23.81	LAC	21.46	XYL	25.61	F
1647	LAP	22.20	PUL	19.90	GLY	08.55	XYL	49.35	-	00.00	F
1648	SLK	23.15	AGR	26.93	CHS	08.08	LAC	27.30	PHA	14.55	F
1649	LAP	12.74	CNF	19.99	PUL	36.53	GLY	30.74	-	00.00	F
1650	LAP	28.03	CNF	03.07	ZIN	10.29	GLY	58.61	-	00.00	F
1651	CNF	13.70	ALG	10.60	GLY	20.90	LAC	17.80	PHA	37.00	F
1652	MMT	26.75	CNF	28.33	AGR	03.49	LAC	17.71	LEV	23.71	F
1653	CMC	10.82	SLK	27.88	CHS	34.07	GLU	22.32	PHA	04.92	F
1654	ALG	09.22	CHS	15.27	PUL	04.80	LAC	65.91	PHA	04.80	F
1655	LAP	26.55	CNF	25.15	CAR	06.11	LEV	18.55	SUA	23.65	F
1656	PUL	26.96	ZIN	33.92	XYL	39.12	-	00.00	-	00.00	F
1657	LAP	10.75	SLK	30.09	AGR	06.20	CHS	26.12	SUA	26.84	F
1658	CNF	12.28	AGR	09.18	GEL	20.06	FFA	04.89	SUA	53.59	F
1659	LAP	19.45	SLK	19.20	AGR	33.87	CAR	10.80	XYL	16.70	F
1660	LAP	19.50	CNF	04.64	GEL	23.83	LAC	27.79	SUA	24.24	F
1661	LAP	35.34	MMT	27.58	CNF	07.73	ZIN	24.44	SUA	04.91	F
1662	CAR	02.67	GEL	27.40	ZIN	08.80	LAC	28.60	XYL	32.54	F
1663	LAP	10.14	CMC	29.64	GLY	06.75	LAC	22.39	PHA	31.08	F
1664	CAR	11.17	PUL	20.10	ZIN	17.45	LEV	22.34	SUA	28.94	F
1665	MMT	21.06	CAR	44.71	LAC	14.81	LEV	19.42	-	00.00	F
1666	PUL	20.68	ZIN	36.89	FFA	04.92	LAC	23.88	SUA	13.64	F
1667	MMT	11.18	CAR	10.72	GEL	29.22	ZIN	23.49	LEV	25.39	F
1668	CAR	17.42	GEL	22.11	GLY	36.56	LAC	13.20	XYL	10.70	F
1669	MMT	29.99	CHS	29.11	FFA	09.90	LEV	16.25	SUA	14.75	F
1670	MMT	10.09	CAR	02.63	ZIN	17.29	LEV	34.67	XYL	35.31	F
1671	LAP	40.48	AGR	22.31	GLY	30.66	XYL	06.55	-	00.00	F
1672	LAP	26.41	ALG	15.81	GEL	11.77	LAC	26.15	XYL	19.86	F
1673	CAR	12.24	PUL	34.15	LAC	16.55	LEV	22.90	SUA	14.15	F
1674	LAP	11.90	CHS	11.72	GLU	14.94	ZIN	27.33	GLY	34.10	F
1675	LAP	28.10	CNF	18.55	SLK	22.30	AGR	17.65	FFA	13.40	F

1676	CMC	25.84	CNF	15.62	ALG	27.77	PEC	16.41	PUL	14.36	F
1677	LAP	27.65	PUL	20.50	STA	20.00	GEL	07.70	LAC	24.16	F
1678	SLK	05.03	GEL	28.04	ZIN	48.16	FFA	18.77	-	00.00	F
1679	LAP	10.65	CNF	65.08	CAR	19.33	ZIN	04.93	-	00.00	F
1680	MMT	23.87	GLU	25.26	GLY	25.72	SUA	25.15	-	00.00	F
1681	CNF	31.28	AGR	06.29	FFA	27.33	LAC	17.52	LEV	17.59	F
1682	CNF	29.11	FFA	38.47	LEV	04.93	SUA	05.17	XYL	22.32	F
1683	CNF	21.68	CAR	22.48	PUL	20.45	ZIN	35.40	-	00.00	F
1684	MMT	11.18	CAR	25.28	GEL	26.10	FFA	11.00	LEV	26.45	F
1685	ALG	10.86	CAR	14.14	GLU	16.88	ZIN	31.61	PHA	26.51	F
1686	CNF	10.59	PHA	24.33	SUA	19.74	XYL	45.33	-	00.00	F
1687	PEC	08.35	STA	27.00	GEL	46.34	PHA	05.60	XYL	12.70	F
1688	LAP	18.86	ZIN	36.60	FFA	15.53	LEV	29.01	-	00.00	F
1689	MMT	04.24	GLU	17.85	LEV	22.90	PHA	29.15	SUA	25.85	F
1690	AGR	27.28	PUL	21.97	GEL	16.35	LEV	21.46	SUA	12.94	F
1691	AGR	23.20	PEC	29.05	GLU	07.29	GLY	04.92	FFA	35.54	F
1692	LAP	45.67	MMT	02.80	ZIN	13.96	FFA	05.13	LAC	32.45	F
1693	ALG	10.75	CAR	07.42	GLU	24.01	LAC	36.81	SUA	21.01	F
1694	MMT	09.66	AGR	06.50	GEL	28.11	FFA	23.06	LEV	32.67	F
1695	CNF	19.16	CAR	49.88	ZIN	07.10	XYL	23.86	-	00.00	F
1696	LAP	36.51	CAR	06.78	FFA	23.31	LAC	26.81	LEV	06.60	F
1697	CNF	19.05	GEL	20.83	GLY	26.49	LEV	16.39	SUA	17.24	F
1698	LAP	30.06	CAR	05.61	PEC	09.89	STA	28.59	PHA	25.86	F
1699	CHS	23.58	GLU	26.20	GLY	20.87	XYL	29.35	-	00.00	F
1700	CNF	06.04	SLK	29.73	CHS	20.76	PHA	26.28	XYL	17.19	F
1701	LAP	17.15	CNF	32.61	GLY	28.25	XYL	22.00	-	00.00	F
1702	MMT	26.04	CMC	13.18	ALG	19.53	CHS	20.15	LEV	21.12	F
1703	MMT	24.52	CNF	07.09	CHS	33.25	SRB	24.55	XYL	10.60	F
1704	LAP	20.30	ALG	14.80	GEL	22.50	GLY	13.90	XYL	28.50	F
1705	MMT	23.29	CMC	09.72	AGR	30.44	CHS	06.15	SUA	30.39	F

1706	AGR	25.34	CHS	09.47	GLY	33.64	LAC	09.65	XYL	21.89	F
1707	LAP	10.81	CNF	28.77	GLY	30.26	XYL	30.16	-	00.00	F
1708	AGR	21.72	CAR	36.67	CHS	23.11	GLY	18.49	-	00.00	F
1709	LAP	26.43	CNF	18.81	CAR	25.93	LEV	28.83	-	00.00	F
1710	CNF	31.36	CHS	15.92	GLY	26.88	FFA	10.24	PHA	15.59	F
1711	MMT	28.01	CHS	05.72	LEV	38.30	SUA	12.13	XYL	15.84	F
1712	CNF	16.16	CHS	29.34	GLU	18.45	PHA	36.05	-	00.00	F
1713	SLK	26.01	CAR	24.48	CHS	03.05	SRB	28.96	SUA	17.50	F
1714	CMC	33.69	CHS	30.73	LEV	21.57	PHA	14.01	-	00.00	F
1715	AGR	03.77	ALG	13.35	PUL	24.09	GLU	30.20	ZIN	28.59	F
1716	CNF	16.59	CHS	19.02	STA	28.60	PHA	13.45	XYL	22.35	F
1717	CNF	16.25	CHS	21.82	ZIN	22.89	FFA	06.90	XYL	32.14	F
1718	MMT	30.03	SLK	05.75	AGR	19.42	LEV	27.95	PHA	16.85	F
1719	MMT	03.72	ZIN	38.66	LAC	06.25	SUA	22.56	XYL	28.81	F
1720	CNF	13.19	STA	26.20	FFA	23.40	LEV	29.05	SUA	08.15	F
1721	CNF	55.43	SLK	11.46	LEV	33.10	-	00.00	-	00.00	F
1722	SLK	11.77	CHS	30.99	PUL	31.78	GEL	25.46	-	00.00	F
1723	LAP	37.35	MMT	45.40	CNF	03.61	CAR	07.84	LAC	05.80	F
1724	LAP	27.14	ALG	12.29	PUL	26.20	ZIN	01.02	FFA	33.36	F
1725	MMT	50.93	CAR	10.90	PUL	04.95	GLY	05.40	LEV	27.82	F
1726	CHS	14.75	ZIN	19.71	GLY	25.04	LAC	23.60	XYL	16.90	F
1727	LAP	36.25	CNF	28.99	CAR	05.79	PUL	19.60	ZIN	09.37	F
1728	CNF	27.29	ALG	18.80	ZIN	16.32	FFA	13.55	SUA	24.04	F
1729	LAP	31.80	CAR	31.10	CHS	07.48	GLY	02.18	LEV	27.44	F
1730	LAP	23.02	ALG	11.06	CHS	11.61	GEL	27.95	PHA	26.37	F
1731	LAP	14.35	CNF	03.36	AGR	21.10	CHS	41.97	GEL	19.23	F
1732	LAP	29.44	AGR	21.86	GEL	11.19	SUA	34.81	XYL	02.69	F
1733	MMT	06.21	CMC	07.40	GLU	16.90	FFA	06.75	LEV	62.74	F
1734	CMC	09.87	AGR	26.81	CAR	33.04	SUA	30.29	-	00.00	F
1735	CMC	29.90	CHS	29.06	GEL	32.86	GLY	08.18	-	00.00	F

1736	CMC	27.72	AGR	15.12	ALG	28.65	GLU	11.90	SUA	16.60	F
1737	LAP	04.97	CNF	56.64	PUL	14.52	GLY	23.87	-	00.00	F
1738	MMT	38.39	CNF	25.40	GEL	06.47	GLY	17.45	LAC	12.30	F
1739	MMT	08.68	CMC	26.72	SLK	22.64	CHS	13.62	SUA	28.34	F
1740	LAP	19.37	GEL	35.29	FFA	11.87	XYL	33.47	-	00.00	F
1741	MMT	29.03	ZIN	27.47	LAC	13.73	XYL	29.77	-	00.00	F
1742	AGR	31.53	ZIN	58.58	LAC	04.95	XYL	04.95	-	00.00	F
1743	LAP	16.09	CHS	17.47	FFA	29.89	SUA	32.80	XYL	03.74	F
1744	SLK	23.86	ALG	22.21	PUL	11.16	GLY	25.41	SUA	17.36	F
1745	LAP	16.05	AGR	41.15	GLU	18.90	FFA	05.35	SUA	18.55	F
1746	LAP	30.39	CAR	09.12	CHS	07.95	LEV	20.57	SUA	31.97	F
1747	LAP	20.45	MMT	21.65	PUL	19.95	GEL	12.96	FFA	25.00	F
1748	LAP	17.20	PUL	16.60	GEL	25.54	FFA	12.65	LAC	28.00	F
1749	CNF	05.85	CAR	09.04	GLY	14.80	FFA	50.15	SUA	20.15	F
1750	LAP	27.19	CMC	03.95	CHS	23.97	LAC	09.60	SUA	35.29	F
1751	LAP	21.60	GEL	23.50	FFA	27.80	LEV	09.65	SUA	17.45	F
1752	LAP	20.23	AGR	11.72	CAR	31.06	STA	19.10	XYL	17.89	F
1753	CMC	01.73	PUL	16.83	ZIN	04.65	LAC	26.19	XYL	50.61	F
1754	SLK	22.93	PUL	20.30	LEV	32.73	XYL	24.04	-	00.00	F
1755	CAR	07.79	GEL	28.04	LEV	40.48	SUA	23.69	-	00.00	F
1756	CNF	41.83	CAR	12.52	LAC	06.20	SRB	22.32	XYL	17.13	F
1757	CNF	04.20	SLK	30.69	CHS	38.66	GEL	12.30	LAC	14.15	F
1758	AGR	06.81	ALG	06.77	GLY	30.84	SUA	29.01	XYL	26.57	F
1759	CNF	10.68	PUL	06.55	GEL	22.83	FFA	15.50	SUA	44.44	F
1760	LAP	08.90	ZIN	36.43	GLY	41.68	XYL	12.99	-	00.00	F
1761	CMC	03.76	GEL	17.90	GLU	31.37	FFA	21.39	SRB	25.58	F
1762	CMC	20.36	ALG	29.86	CHS	16.33	PHA	17.85	SUA	15.60	F
1763	CNF	03.11	SLK	30.84	PUL	20.56	GEL	23.52	ZIN	21.96	F
1764	PUL	26.95	ZIN	25.00	GLY	14.65	XYL	33.40	-	00.00	F
1765	CNF	42.89	PUL	09.68	GLY	42.43	XYL	04.99	-	00.00	F

1766	MMT	24.74	CMC	18.48	CHS	14.68	PUL	10.25	GLY	31.85	F
1767	CMC	02.50	ALG	37.68	ZIN	22.38	FFA	19.77	LAC	17.67	F
1768	CNF	24.07	AGR	06.38	GLU	32.10	FFA	23.30	LAC	14.15	F
1769	CMC	36.71	SLK	24.81	AGR	02.78	ALG	06.25	PHA	29.46	F
1770	CAR	27.04	PUL	06.94	ZIN	38.84	LEV	04.96	SUA	22.22	F
1771	LAP	32.09	CAR	26.28	ZIN	21.19	LEV	09.60	XYL	10.85	F
1772	CNF	25.33	AGR	23.14	LAC	39.00	PHA	12.53	-	00.00	F
1773	LAP	26.45	PUL	25.70	GLY	21.35	XYL	26.50	-	00.00	F
1774	MMT	27.01	CHS	23.09	GEL	18.79	ZIN	10.06	SUA	21.06	F
1775	LAP	34.50	CMC	02.50	LEV	17.40	XYL	45.60	-	00.00	F
1776	MMT	16.62	SLK	13.24	CAR	43.91	PUL	22.92	GEL	03.31	F
1777	MMT	16.65	CMC	25.87	LAC	22.59	LEV	21.69	PHA	13.20	F
1778	MMT	14.67	CAR	12.49	GEL	50.12	XYL	22.72	-	00.00	F
1779	ALG	07.12	FFA	27.92	PHA	64.96	-	00.00	-	00.00	F
1780	MMT	23.18	CAR	29.32	ZIN	19.36	FFA	28.14	-	00.00	F
1781	PUL	20.20	ZIN	30.10	GLY	20.50	XYL	29.20	-	00.00	F
1782	MMT	02.81	PUL	27.35	GEL	20.34	LEV	31.35	SUA	18.15	F
1783	CHS	18.52	LAC	32.78	SUA	14.76	XYL	33.94	-	00.00	F
1784	LAP	15.70	CMC	19.50	CNF	15.01	SLK	24.90	GEL	24.90	F
1785	CNF	13.55	ZIN	21.46	LAC	60.04	XYL	04.95	-	00.00	F
1786	CMC	17.56	SLK	12.64	PHA	50.09	XYL	19.71	-	00.00	F
1787	MMT	61.25	CAR	02.67	PUL	19.28	GEL	16.79	-	00.00	F
1788	LAP	16.24	MMT	02.76	CNF	17.34	SLK	39.10	PHA	24.56	F
1789	LAP	05.90	CNF	34.94	GLU	11.50	FFA	18.00	SUA	29.66	F
1790	MMT	22.60	ALG	19.38	CAR	20.57	CHS	02.47	GLU	34.99	F
1791	AGR	19.72	LAC	11.35	LEV	29.94	SUA	29.34	XYL	09.65	F
1792	CNF	23.94	PEC	35.55	GLU	06.90	ZIN	17.75	LAC	15.85	F
1793	LAP	38.47	CAR	19.14	PUL	23.73	GLY	13.70	LAC	04.96	F
1794	AGR	28.78	PEC	07.62	PHA	27.08	SRB	31.60	XYL	04.92	F
1795	LAP	30.00	CNF	07.53	ZIN	04.97	GLY	24.18	SUA	33.33	F

1796	CAR	05.52	PEC	34.06	ZIN	27.35	SRB	28.10	SUA	04.97	F
1797	CNF	25.83	CAR	30.13	FFA	30.69	LAC	05.75	LEV	07.60	F
1798	CNF	16.37	ALG	16.46	PUL	21.93	LAC	26.08	PHA	19.16	F
1799	MMT	13.19	ALG	55.30	FFA	20.10	XYL	11.41	-	00.00	F
1800	LAP	06.15	PUL	31.25	ZIN	32.95	XYL	29.65	-	00.00	F
1801	CMC	02.52	AGR	14.56	LAC	32.85	PHA	50.06	-	00.00	F
1802	AGR	10.30	ZIN	28.93	LAC	14.90	LEV	40.41	SUA	05.47	F
1803	LAP	12.90	CNF	46.74	ZIN	17.05	XYL	23.31	-	00.00	F
1804	CAR	50.30	LAC	05.81	LEV	38.64	SUA	05.26	-	00.00	F
1805	LAP	21.20	MMT	33.56	GEL	15.40	LEV	09.60	XYL	20.25	F
1806	MMT	38.93	GEL	03.31	ZIN	07.60	LEV	11.57	SUA	38.59	F
1807	MMT	18.98	CNF	14.28	CHS	20.63	GEL	13.02	GLY	33.09	F
1808	MMT	05.99	CMC	33.59	AGR	21.37	PHA	15.65	XYL	23.40	F
1809	LAP	34.09	GEL	33.07	GLY	32.84	-	00.00	-	00.00	F
1810	ALG	03.96	CHS	31.86	PEC	21.50	GLY	12.72	XYL	29.95	F
1811	AGR	10.63	ALG	20.25	GLU	18.76	GLY	18.10	PHA	32.25	F
1812	CNF	08.50	CAR	29.27	FFA	30.24	SUA	24.29	XYL	07.70	F
1813	LAP	05.85	CNF	47.85	CAR	22.99	ZIN	23.30	-	00.00	F
1814	LAP	31.17	FFA	16.00	LAC	04.88	PHA	20.98	SUA	26.98	F
1815	SLK	22.74	PUL	40.62	GLU	18.76	PHA	17.89	-	00.00	F
1816	ALG	21.81	PUL	44.84	GLU	22.59	LEV	10.76	-	00.00	F
1817	CNF	19.58	GEL	17.53	ZIN	25.15	LAC	21.30	LEV	16.45	F
1818	CNF	14.43	CHS	06.87	PUL	35.26	GEL	16.29	SUA	27.14	F
1819	MMT	12.18	SLK	37.67	ALG	16.01	SUA	34.14	-	00.00	F
1820	MMT	12.68	CAR	20.18	GLY	23.84	LEV	21.90	XYL	21.40	F
1821	LAP	15.65	CNF	27.15	CAR	16.14	ZIN	09.60	LEV	31.46	F
1822	LAP	38.79	CAR	07.78	GLU	21.59	FFA	20.14	XYL	11.70	F
1823	LAP	04.88	CAR	24.71	LAC	16.99	LEV	25.00	SUA	28.42	F
1824	SLK	13.21	ALG	30.63	ZIN	17.92	LAC	33.33	SUA	04.91	F
1825	LAP	41.07	CNF	33.41	ZIN	04.98	GLY	20.53	-	00.00	F

1826	LAP	23.80	CNF	18.31	SLK	25.65	CAR	22.03	GLY	10.20	F
1827	LAP	12.19	CMC	16.74	ALG	25.09	PUL	21.59	PHA	24.39	F
1828	MMT	20.18	GEL	23.67	GLY	06.90	FFA	13.05	LAC	36.20	F
1829	CNF	25.09	PUL	26.80	GEL	18.56	FFA	11.05	LAC	18.50	F
1830	CNF	12.94	ALG	13.51	GLU	26.61	FFA	26.74	LEV	20.20	F
1831	LAP	04.96	CNF	28.62	ZIN	19.59	GLY	46.83	-	00.00	F
1832	CNF	27.65	CAR	08.29	GEL	27.70	SUA	09.95	XYL	26.40	F
1833	LAP	47.51	CNF	09.38	PUL	17.55	XYL	25.56	-	00.00	F
1834	CNF	25.14	PUL	24.10	ZIN	23.45	XYL	27.30	-	00.00	F
1835	CAR	10.59	CHS	50.36	ZIN	12.49	LEV	26.57	-	00.00	F
1836	MMT	26.20	CNF	19.83	CHS	16.76	LAC	20.06	SUA	17.15	F
1837	AGR	08.68	PUL	21.65	ZIN	03.77	FFA	36.60	LEV	29.30	F
1838	MMT	25.70	CNF	26.24	GEL	03.33	LAC	10.28	LEV	34.45	F
1839	MMT	26.75	CAR	22.50	ZIN	13.45	GLY	28.70	LAC	08.60	F
1840	MMT	20.49	CHS	09.90	GLY	09.15	SRB	38.55	SUA	21.90	F
1841	SLK	16.00	GEL	18.04	GLU	27.00	LEV	05.45	SUA	33.51	F
1842	SLK	25.36	ZIN	29.43	LAC	14.55	LEV	30.66	-	00.00	F
1843	CNF	04.98	PUL	11.90	ZIN	12.90	XYL	70.23	-	00.00	F
1844	CMC	04.20	AGR	09.88	ALG	11.61	LEV	37.75	XYL	36.56	F
1845	AGR	15.97	CHS	22.62	GEL	19.03	PHA	16.44	SRB	25.94	F
1846	CNF	27.07	PUL	36.77	GLY	36.16	-	00.00	-	00.00	F
1847	CMC	09.02	AGR	10.96	ALG	25.85	GEL	27.44	LAC	26.73	F
1848	LAP	65.27	CMC	02.47	SLK	07.05	PUL	20.28	LAC	04.93	F
1849	LAP	30.85	ALG	13.67	PEC	20.41	GLU	21.42	LAC	13.65	F
1850	PEC	06.65	GEL	24.10	PHA	27.00	SRB	22.45	SUA	19.80	F
1851	LAP	41.98	GEL	03.40	FFA	12.79	SUA	27.04	XYL	14.79	F
1852	LAP	27.19	CMC	18.33	ALG	10.89	CHS	11.34	SUA	32.26	F
1853	CNF	10.41	PUL	15.61	GLY	43.92	XYL	30.06	-	00.00	F
1854	MMT	21.41	AGR	26.55	PUL	31.75	GLY	09.95	SUA	10.35	F
1855	ALG	03.40	CHS	23.54	STA	24.56	GLU	20.14	FFA	28.36	F

1856	CMC	29.52	CHS	21.22	GLY	18.60	SUA	11.05	XYL	19.60	F
1857	LAP	24.70	AGR	13.10	CHS	02.48	GLY	21.78	LAC	37.95	F
1858	STA	27.08	GEL	05.64	GLU	16.42	SUA	26.36	XYL	24.51	F
1859	CNF	23.93	ALG	23.96	FFA	02.69	LEV	25.45	SUA	23.97	F
1860	CMC	07.02	AGR	23.53	GLU	20.18	FFA	31.43	LEV	17.84	F
1861	MMT	24.55	CMC	23.74	AGR	16.70	ALG	23.63	FFA	11.38	F
1862	CMC	25.13	CNF	16.80	GEL	23.09	GLU	04.91	SUA	30.07	F
1863	PUL	42.26	GLY	43.38	XYL	14.36	-	00.00	-	00.00	F
1864	LAP	32.36	CNF	14.47	CAR	28.90	LEV	24.26	-	00.00	F
1865	CHS	18.56	GEL	19.80	GLY	24.51	FFA	16.66	LAC	20.48	F
1866	PUL	19.94	ZIN	08.90	GLY	29.94	XYL	41.23	-	00.00	F
1867	CNF	09.43	PEC	14.71	STA	25.88	GEL	19.68	SRB	30.31	F
1868	CMC	24.36	AGR	25.89	ZIN	24.57	LEV	04.83	SUA	20.36	F
1869	AGR	37.52	ALG	23.96	GLU	13.06	GLY	19.81	XYL	05.65	F
1870	MMT	28.05	CHS	03.91	GLU	08.81	ZIN	04.92	PHA	54.30	F
1871	LAP	39.50	AGR	23.00	CHS	06.33	STA	25.27	LAC	05.90	F
1872	AGR	10.58	ALG	20.82	PUL	33.11	LEV	30.55	PHA	04.93	F
1873	CMC	19.70	CHS	28.32	PHA	11.40	SUA	32.24	XYL	08.35	F
1874	MMT	29.76	CMC	14.17	GLU	11.37	FFA	18.00	SUA	26.70	F
1875	LAP	06.45	PUL	73.15	GLY	09.40	XYL	11.00	-	00.00	F
1876	CHS	13.00	GEL	03.60	ZIN	17.70	GLY	34.60	PHA	31.10	F
1877	LAP	51.20	PUL	08.21	LEV	04.91	PHA	29.48	XYL	06.19	F
1878	SLK	22.05	PUL	14.50	GLU	27.40	LAC	26.40	SUA	09.65	F
1879	ALG	25.24	CAR	12.73	FFA	17.68	SUA	25.41	XYL	18.94	F
1880	SLK	26.65	AGR	23.60	CHS	16.15	LEV	12.85	XYL	20.75	F
1881	LAP	24.95	CNF	29.29	ZIN	29.46	GLY	16.30	-	00.00	F
1882	LAP	31.15	MMT	32.39	AGR	07.37	GEL	23.93	PHA	05.15	F
1883	ALG	24.21	PEC	24.16	FFA	24.41	LAC	15.51	PHA	11.71	F
1884	ALG	27.31	GLY	11.21	LAC	21.45	PHA	40.04	-	00.00	F
1885	PEC	27.78	GLU	29.36	FFA	29.24	SUA	08.74	XYL	04.88	F

1886	LAP	27.56	CMC	18.51	CNF	23.23	STA	27.56	GLU	03.14	F
1887	CNF	12.21	CAR	18.54	LAC	26.15	LEV	35.25	SUA	07.85	F
1888	LAP	18.15	PUL	25.70	FFA	23.70	LEV	14.40	XYL	18.05	F
1889	SLK	15.25	GLU	28.55	LEV	26.40	SUA	11.65	XYL	18.15	F
1890	MMT	28.29	ALG	06.07	CHS	10.42	GLY	34.35	SRB	20.88	F
1891	LAP	30.60	ZIN	18.05	GLY	29.05	XYL	22.30	-	00.00	F
1892	SLK	22.10	AGR	17.78	CAR	18.72	PEC	22.70	PHA	18.70	F
1893	ZIN	24.15	GLY	29.22	FFA	07.38	LAC	39.26	-	00.00	F
1894	ALG	24.20	CAR	34.86	CHS	32.51	PUL	08.44	-	00.00	F
1895	MMT	11.90	CMC	05.80	SLK	26.90	ALG	24.55	PHA	30.85	F
1896	LAP	21.35	AGR	12.40	PUL	11.75	GLU	12.53	SUA	41.96	F
1897	LAP	06.20	CNF	14.55	PUL	08.90	XYL	70.35	-	00.00	F
1898	LAP	26.40	CNF	36.50	GLY	30.15	XYL	06.95	-	00.00	F
1899	LAP	09.22	GEL	42.02	ZIN	04.96	LAC	20.02	LEV	23.79	F
1900	LAP	06.71	ALG	32.77	CHS	17.09	STA	04.24	SRB	39.19	F
1901	ZIN	41.11	FFA	26.02	SUA	26.88	XYL	06.00	-	00.00	F
1902	LAP	28.84	MMT	08.88	GLY	16.19	FFA	27.44	XYL	18.64	F
1903	MMT	15.38	GEL	03.29	ZIN	23.72	GLY	31.23	SUA	26.39	F
1904	MMT	20.43	CHS	40.31	ZIN	16.83	FFA	19.55	SRB	02.89	F
1905	CNF	50.50	CAR	06.64	ZIN	27.40	XYL	15.45	-	00.00	F
1906	GEL	20.98	ZIN	16.87	GLY	39.56	SUA	22.59	-	00.00	F
1907	MMT	33.77	SLK	05.02	CHS	27.22	GEL	33.99	-	00.00	F
1908	CNF	20.12	AGR	11.31	ALG	32.21	PHA	36.35	-	00.00	F
1909	ALG	11.92	GLU	27.29	FFA	43.02	SUA	17.77	-	00.00	F
1910	PUL	43.00	GEL	15.48	SUA	41.51	-	00.00	-	00.00	F
1911	SLK	16.90	AGR	20.33	GLY	22.91	LAC	24.36	SUA	15.50	F
1912	CAR	30.45	CHS	21.39	PEC	19.24	GLY	18.81	SRB	10.11	F
1913	LAP	34.70	MMT	17.39	ALG	07.00	CHS	26.87	LAC	14.05	F
1914	AGR	26.44	ALG	14.73	PUL	07.19	FFA	34.58	LAC	17.06	F
1915	LAP	02.73	ALG	32.20	ZIN	10.80	PHA	25.62	XYL	28.65	F

1916	CNF	33.18	SLK	15.39	CAR	07.14	ZIN	06.95	LAC	37.34	F
1917	LAP	12.10	ALG	20.05	GEL	08.40	GLU	11.50	GLY	47.95	F
1918	PEC	33.22	STA	30.23	LEV	28.06	SRB	03.80	SUA	04.68	F
1919	CMC	03.80	CAR	22.48	ZIN	11.28	GLY	04.66	SUA	57.78	F
1920	LAP	33.15	PUL	31.95	GLY	12.85	XYL	22.05	-	00.00	F
1921	MMT	04.35	CMC	21.93	ZIN	09.44	FFA	32.73	LEV	31.55	F
1922	CMC	02.43	PUL	27.14	GEL	31.24	LAC	07.86	LEV	31.34	F
1923	SLK	28.10	CHS	03.38	STA	29.67	FFA	23.10	LEV	15.75	F
1924	SLK	26.13	STA	30.74	PHA	04.88	SRB	17.44	SUA	20.81	F
1925	MMT	25.20	PUL	24.50	GEL	03.40	ZIN	17.00	FFA	29.90	F
1926	SLK	19.33	AGR	20.43	ALG	29.81	GEL	30.42	-	00.00	F
1927	SLK	33.25	ALG	09.65	GEL	13.20	FFA	14.35	LEV	29.55	F
1928	CMC	09.90	SLK	09.45	GLY	33.55	FFA	20.95	LEV	26.15	F
1929	LAP	12.44	PUL	27.27	FFA	24.07	LAC	36.21	-	00.00	F
1930	CMC	20.55	AGR	27.92	ALG	34.28	CHS	17.24	-	00.00	F
1931	MMT	38.61	PUL	20.35	ZIN	36.11	SUA	04.93	-	00.00	F
1932	PUL	30.45	ZIN	21.05	GLY	22.10	XYL	26.40	-	00.00	F
1933	LAP	25.04	PUL	18.14	GEL	18.23	LEV	25.54	SUA	13.05	F
1934	CMC	05.85	CNF	25.56	GLU	28.55	SUA	22.10	XYL	17.95	F
1935	PEC	16.34	GLU	25.73	ZIN	35.19	FFA	07.10	LAC	15.64	F
1936	SLK	18.10	AGR	08.97	LEV	20.34	PHA	42.74	SUA	09.85	F
1937	CNF	43.53	GLY	38.94	XYL	17.53	-	00.00	-	00.00	F
1938	MMT	11.89	CAR	21.28	GEL	08.37	ZIN	47.86	LEV	10.60	F
1939	CNF	26.35	ZIN	40.01	GLY	33.64	-	00.00	-	00.00	F
1940	PUL	14.67	GLU	32.45	GLY	09.22	LEV	15.27	SUA	28.38	F
1941	CNF	23.02	LEV	23.28	SUA	53.69	-	00.00	-	00.00	F
1942	CMC	29.10	PUL	13.21	GLU	30.82	LEV	26.87	-	00.00	F
1943	CNF	21.33	PHA	46.83	SUA	31.84	-	00.00	-	00.00	F
1944	CAR	04.08	GEL	12.97	FFA	23.05	LAC	24.45	XYL	35.45	F
1945	LAP	09.31	CMC	15.38	GEL	32.29	LEV	22.33	XYL	20.70	F

1946	CAR	16.20	PUL	24.88	ZIN	04.95	LAC	15.29	XYL	38.68	F
1947	LAP	31.59	MMT	05.10	CMC	27.83	ALG	01.69	FFA	33.78	F
1948	MMT	38.52	CHS	16.31	ZIN	23.60	PHA	21.57	-	00.00	F
1949	MMT	32.09	CMC	27.41	GEL	03.86	FFA	16.21	LAC	20.42	F
1950	SLK	37.00	AGR	28.15	PHA	29.87	SUA	04.99	-	00.00	F
1951	PUL	26.48	GLY	20.46	FFA	29.57	LEV	23.49	-	00.00	F
1952	LAP	36.50	MMT	13.38	SLK	23.68	ALG	04.91	SUA	21.52	F
1953	LAP	21.53	AGR	16.71	GEL	03.30	GLY	20.34	PHA	38.12	F
1954	CMC	16.28	AGR	18.50	ALG	22.01	GEL	24.31	LEV	18.90	F
1955	CNF	28.67	CAR	17.12	GEL	09.37	LAC	14.70	SUA	30.15	F
1956	LAP	42.10	PUL	23.85	FFA	05.55	SUA	28.50	-	00.00	F
1957	GEL	42.73	ZIN	04.95	GLY	24.09	FFA	17.56	LEV	10.68	F
1958	CMC	20.99	SLK	12.11	GLU	24.58	GLY	22.91	XYL	19.41	F
1959	LAP	90.19	GLY	09.81	-	00.00	-	00.00	-	00.00	F
1960	CAR	11.84	CHS	08.77	PUL	31.75	GLY	16.15	PHA	31.50	F
1961	CMC	08.59	AGR	36.59	PUL	04.79	GEL	22.13	SUA	27.89	F
1962	CNF	15.31	CHS	21.47	GLU	23.24	LAC	19.14	SUA	20.84	F
1963	MMT	31.44	GLU	25.90	LEV	06.10	PHA	28.90	XYL	07.65	F
1964	LAP	16.80	PUL	18.05	ZIN	56.35	XYL	08.80	-	00.00	F
1965	MMT	20.41	AGR	25.22	ALG	02.43	GLY	25.11	LAC	26.83	F
1966	GLY	24.27	SUA	38.82	XYL	36.92	-	00.00	-	00.00	F
1967	ALG	47.49	CHS	25.07	PHA	12.02	SUA	04.93	XYL	10.49	F
1968	LAP	19.41	ZIN	19.71	FFA	24.21	SUA	14.56	XYL	22.11	F
1969	CNF	03.10	CAR	19.10	ZIN	12.99	LEV	40.35	SUA	24.46	F
1970	ALG	08.15	CHS	19.57	PEC	33.49	STA	33.05	FFA	05.75	F
1971	MMT	26.92	PUL	43.09	GLY	10.74	FFA	14.33	XYL	04.92	F
1972	CMC	11.75	AGR	24.57	PUL	28.54	FFA	06.30	XYL	28.84	F
1973	SLK	08.82	PUL	26.26	GEL	22.31	GLY	04.90	LAC	37.72	F
1974	LAP	11.10	AGR	21.58	GEL	25.01	FFA	23.16	LAC	19.15	F
1975	MMT	32.70	AGR	31.11	GLY	31.16	PHA	05.03	-	00.00	F

1976	LAP	23.73	CAR	34.58	PUL	22.68	GEL	03.33	SUA	15.68	F
1977	LAP	10.50	MMT	03.26	FFA	08.10	LAC	35.35	LEV	42.79	F
1978	LAP	20.30	CMC	14.09	STA	32.03	GLY	03.62	SUA	29.96	F
1979	CNF	08.78	AGR	21.12	CHS	30.04	ZIN	16.76	LEV	23.30	F
1980	ALG	04.92	CHS	34.60	PEC	27.36	GLY	11.56	XYL	21.56	F
1981	CNF	23.53	SLK	14.03	PEC	22.14	PHA	35.32	SUA	04.98	F
1982	MMT	23.15	SLK	18.70	CHS	12.45	FFA	28.85	LAC	16.85	F
1983	MMT	21.79	AGR	11.80	LAC	26.35	PHA	10.85	SRB	29.20	F
1984	CMC	03.77	GEL	18.13	ZIN	31.26	LEV	23.09	PHA	23.74	F
1985	CNF	40.02	SLK	19.16	GLU	12.06	ZIN	07.90	GLY	20.86	F
1986	LAP	26.60	CNF	30.56	PUL	32.20	ZIN	10.65	-	00.00	F
1987	AGR	17.92	ALG	21.91	CAR	21.84	LAC	38.34	-	00.00	F
1988	AGR	31.89	CAR	08.64	CHS	02.21	ZIN	22.50	FFA	34.76	F
1989	CMC	34.57	CNF	04.81	CAR	22.88	PHA	13.36	XYL	24.38	F
1990	MMT	27.17	CNF	24.53	CAR	37.00	CHS	03.40	FFA	07.90	F
1991	CMC	35.91	AGR	16.82	GLU	14.94	ZIN	16.23	LAC	16.10	F
1992	CNF	30.78	PUL	05.55	GLY	28.76	XYL	34.91	-	00.00	F
1993	AGR	07.27	ALG	30.23	ZIN	03.78	FFA	32.77	XYL	25.96	F
1994	CAR	26.40	GEL	24.61	FFA	27.47	LAC	21.52	-	00.00	F
1995	LAP	29.03	MMT	21.36	CAR	16.56	PUL	33.06	-	00.00	F
1996	LAP	15.92	MMT	02.81	GLY	52.36	FFA	20.43	LAC	08.48	F
1997	CAR	13.04	PUL	35.85	ZIN	15.75	GLY	35.35	-	00.00	F
1998	MMT	25.32	FFA	37.39	LEV	32.27	XYL	05.02	-	00.00	F
1999	LAP	42.70	CNF	10.34	GLY	39.15	XYL	07.80	-	00.00	F
2000	CNF	05.54	SLK	19.25	LAC	14.60	PHA	25.25	SUA	35.35	F
2001	LAP	21.10	CNF	15.25	AGR	20.95	ALG	24.85	GLY	17.85	F
2002	CNF	06.60	SLK	10.30	PUL	40.45	FFA	26.45	PHA	16.20	F
2003	CNF	17.78	ALG	00.12	GLY	20.73	LEV	39.23	XYL	22.13	F
2004	CNF	11.87	CAR	06.80	PUL	29.74	GLY	51.59	-	00.00	F
2005	CAR	51.32	GLY	10.52	FFA	06.61	SUA	31.55	-	00.00	F

2006	STA	04.91	GEL	15.29	GLU	29.23	LAC	28.27	SRB	22.29	F
2007	LAP	21.15	CNF	08.41	GLY	51.09	XYL	19.35	-	00.00	F
2008	LAP	22.50	CNF	22.05	GLY	30.95	XYL	24.50	-	00.00	F
2009	MMT	30.77	CAR	03.17	GLY	14.85	LEV	28.75	SUA	22.45	F
2010	MMT	42.68	PUL	25.04	ZIN	13.64	LAC	13.44	LEV	05.20	F
2011	CNF	03.08	PUL	42.16	ZIN	31.63	GLY	23.13	-	00.00	F
2012	LAP	22.75	CNF	34.30	GLY	12.70	XYL	30.25	-	00.00	F
2013	MMT	37.49	CMC	07.87	ALG	24.15	CHS	15.05	GEL	15.43	F
2014	LAP	39.75	AGR	11.42	ALG	18.46	CHS	08.37	GLU	22.00	F
2015	LAP	33.59	CNF	27.27	GLU	07.21	LAC	04.90	PHA	27.02	F
2016	LAP	04.90	AGR	32.29	ZIN	22.95	LAC	10.30	LEV	29.57	F
2017	ZIN	25.37	GLY	28.44	FFA	23.48	SUA	22.71	-	00.00	F
2018	AGR	22.07	CAR	13.33	PUL	28.70	GLU	27.30	LAC	08.60	F
2019	PUL	04.87	ZIN	04.87	FFA	53.17	LEV	19.10	XYL	17.98	F
2020	AGR	23.80	FFA	29.91	LAC	30.64	LEV	10.74	XYL	04.90	F
2021	LAP	30.50	ZIN	11.50	GLY	32.30	XYL	25.70	-	00.00	F
2022	LAP	13.17	ALG	20.94	ZIN	26.65	LEV	24.74	SUA	14.50	F
2023	MMT	18.50	SLK	17.50	AGR	17.75	GLU	21.18	FFA	25.06	F
2024	LAP	05.65	CAR	20.56	ZIN	25.20	FFA	24.05	LEV	24.55	F
2025	CNF	16.90	SLK	09.45	AGR	27.13	STA	23.21	SRB	23.31	F
2026	PUL	09.85	ZIN	11.69	GLY	32.48	FFA	28.79	LAC	17.19	F
2027	MMT	05.35	AGR	23.32	GLY	26.19	FFA	06.75	LEV	38.39	F
2028	PUL	09.72	ZIN	58.47	GLY	31.82	-	00.00	-	00.00	F
2029	MMT	14.82	CMC	03.73	AGR	25.06	PUL	26.02	SRB	30.37	F
2030	LAP	16.89	CNF	25.72	ZIN	43.59	XYL	13.80	-	00.00	F
2031	MMT	10.79	CNF	28.59	PUL	23.01	FFA	10.80	LEV	26.81	F
2032	LAP	04.90	ZIN	25.33	LAC	21.51	PHA	26.70	XYL	21.56	F
2033	MMT	14.14	CHS	04.58	FFA	18.79	LAC	31.40	SUA	31.10	F
2034	ALG	12.20	GEL	30.80	GLU	09.95	FFA	22.90	PHA	24.15	F
2035	CNF	16.18	CAR	02.67	ZIN	35.13	FFA	33.33	LEV	12.69	F

2036	SLK	12.35	CHS	17.97	PUL	26.69	FFA	20.24	XYL	22.74	F
2037	LAP	17.82	CNF	03.10	ZIN	31.01	FFA	41.81	LAC	06.27	F
2038	MMT	14.73	CMC	17.22	AGR	20.42	CHS	30.60	LAC	17.04	F
2039	LAP	24.30	CNF	06.17	PUL	21.10	ZIN	48.44	-	00.00	F
2040	CMC	29.03	CNF	03.07	CHS	02.47	ZIN	03.29	LAC	62.15	F
2041	CMC	10.90	ZIN	17.96	LAC	24.30	PHA	21.80	SUA	25.05	F
2042	MMT	06.57	ALG	12.00	GEL	07.36	ZIN	54.68	SUA	19.39	F
2043	LAP	08.06	PUL	47.75	GEL	16.85	LEV	22.42	XYL	04.92	F
2044	LAP	27.50	CAR	12.24	FFA	14.70	LAC	22.35	LEV	23.20	F
2045	CMC	07.90	CAR	16.46	GEL	26.17	SUA	25.83	XYL	23.64	F
2046	LAP	23.86	GEL	05.77	FFA	09.25	PHA	33.36	XYL	27.76	F
2047	CNF	26.09	GEL	05.87	GLY	31.45	FFA	08.45	LEV	28.15	F
2048	MMT	06.28	CNF	42.03	ALG	07.77	CHS	02.24	FFA	41.68	F
2049	CMC	19.17	ALG	05.25	LAC	34.09	PHA	12.60	SUA	28.89	F
2050	CNF	25.86	CHS	20.32	GLU	20.00	ZIN	22.72	LAC	11.10	F
2051	ALG	04.08	CAR	13.95	PEC	37.31	LEV	10.40	SUA	34.26	F
2052	CNF	23.21	ZIN	25.80	FFA	18.88	PHA	21.87	XYL	10.24	F
2053	CMC	32.31	CNF	32.19	CHS	03.11	FFA	00.19	SUA	32.19	F
2054	CNF	18.41	ZIN	13.37	LAC	35.62	SUA	32.60	-	00.00	F
2055	MMT	21.44	CHS	09.90	GEL	36.88	ZIN	03.32	FFA	28.46	F
2056	MMT	27.66	CNF	04.15	GLY	18.23	LEV	49.95	-	00.00	F
2057	CNF	08.15	SLK	35.20	AGR	36.93	SUA	14.84	XYL	04.88	F
2058	LAP	61.52	ZIN	21.24	GLY	07.00	XYL	10.24	-	00.00	F
2059	LAP	23.25	MMT	18.86	CMC	23.60	AGR	06.15	ALG	28.15	F
2060	CNF	21.01	GEL	33.20	ZIN	22.10	LEV	09.10	PHA	14.60	F
2061	GEL	03.37	GLY	50.59	LAC	10.90	LEV	19.45	PHA	15.70	F
2062	LAP	26.49	CMC	12.55	GLU	06.93	LAC	23.04	XYL	30.99	F
2063	CNF	07.04	CAR	27.60	GEL	13.57	LEV	41.80	XYL	10.00	F
2064	LAP	09.30	CNF	25.44	ZIN	42.43	GLY	22.84	-	00.00	F
2065	STA	08.40	ZIN	36.15	GLY	19.65	PHA	10.15	SRB	25.65	F

2066	LAP	22.45	MMT	24.23	CMC	25.26	CAR	25.12	GLU	02.93	F
2067	ALG	17.07	CAR	34.68	CHS	06.93	GLY	36.37	XYL	04.95	F
2068	CNF	11.31	PUL	26.55	ZIN	41.75	XYL	20.40	-	00.00	F
2069	PUL	30.53	ZIN	50.57	GLY	12.44	XYL	06.45	-	00.00	F
2070	ALG	28.86	ZIN	38.27	LAC	27.85	LEV	05.02	-	00.00	F
2071	LAP	16.10	CHS	09.00	PHA	25.60	SUA	14.45	XYL	34.85	F
2072	LAP	04.99	CMC	02.78	GLY	23.58	SUA	56.82	XYL	11.83	F
2073	LAP	19.10	MMT	29.38	CAR	22.96	LAC	20.40	LEV	08.15	F
2074	CNF	15.45	PUL	39.75	ZIN	17.75	GLY	27.05	-	00.00	F
2075	AGR	21.14	CAR	30.11	ZIN	11.27	FFA	10.99	LAC	26.49	F
2076	MMT	07.99	CAR	02.77	PUL	18.20	ZIN	36.14	LEV	34.90	F
2077	LAP	34.55	CMC	25.87	AGR	14.30	GEL	08.83	SUA	16.45	F
2078	MMT	19.75	CHS	16.95	FFA	08.40	PHA	32.10	XYL	22.80	F
2079	LAP	41.87	PUL	13.21	ZIN	20.36	XYL	24.56	-	00.00	F
2080	MMT	14.42	CNF	31.48	CHS	08.14	ZIN	29.76	FFA	16.20	F
2081	CNF	15.69	SLK	27.09	PUL	21.39	GLU	28.58	GLY	07.25	F
2082	LAP	43.20	CNF	06.36	GLY	13.07	LAC	15.24	SRB	22.13	F
2083	LAP	33.90	PUL	19.10	ZIN	21.00	XYL	26.00	-	00.00	F
2084	CMC	11.78	ALG	09.20	GLU	45.01	GLY	17.30	LAC	16.70	F
2085	CNF	13.01	SLK	18.84	ALG	26.29	ZIN	26.66	PHA	15.20	F
2086	CNF	16.00	CAR	14.02	GLY	15.55	LEV	30.39	SUA	24.04	F
2087	AGR	16.32	PEC	12.86	GEL	22.67	GLY	16.27	LEV	31.87	F
2088	LAP	16.08	CMC	02.31	FFA	26.20	LAC	25.19	LEV	30.21	F
2089	CMC	14.06	CNF	23.50	GLY	34.92	LEV	04.93	SUA	22.59	F
2090	LAP	12.10	STA	27.31	GEL	08.35	GLY	22.92	LEV	29.33	F
2091	LAP	17.40	SLK	20.75	PUL	15.70	GEL	27.84	PHA	18.30	F
2092	PUL	25.15	ZIN	05.40	FFA	42.05	LAC	10.25	XYL	17.15	F
2093	CNF	11.04	CAR	07.73	CHS	32.02	LAC	26.38	LEV	22.83	F
2094	ALG	32.83	CAR	15.58	CHS	10.81	ZIN	21.92	SUA	18.85	F
2095	CNF	34.40	GEL	03.34	ZIN	28.75	SUA	33.51	-	00.00	F

2096	MMT	21.82	GLU	10.50	ZIN	15.53	GLY	27.45	XYL	24.70	F
2097	LAP	18.95	CMC	27.05	CNF	27.49	LAC	10.30	SUA	16.20	F
2098	LAP	26.96	PUL	05.60	GLY	04.91	LAC	47.64	SUA	14.88	F
2099	AGR	38.86	PUL	20.55	GEL	05.73	ZIN	03.29	LEV	31.57	F
2100	CNF	08.94	CHS	30.10	LEV	32.06	SUA	28.90	-	00.00	F
2101	AGR	11.14	ALG	26.00	CAR	33.99	PEC	04.89	STA	23.98	F
2102	LAP	35.35	CNF	06.54	CAR	50.21	PUL	07.90	-	00.00	F
2103	MMT	11.36	ZIN	06.54	LAC	54.48	SUA	27.62	-	00.00	F
2104	CNF	12.43	GLU	12.00	FFA	19.91	LEV	32.06	PHA	23.61	F
2105	CMC	19.80	SLK	22.75	ALG	28.20	FFA	06.65	SUA	22.60	F
2106	CNF	17.79	PUL	23.20	ZIN	32.25	GLY	26.75	-	00.00	F
2107	CMC	16.30	GLU	16.72	LAC	25.74	LEV	21.39	XYL	19.84	F
2108	CAR	19.74	ZIN	51.41	GLY	11.50	XYL	17.35	-	00.00	F
2109	LAP	27.72	CMC	01.07	CHS	33.13	GLY	15.83	SUA	22.24	F
2110	CHS	17.35	GLU	09.24	ZIN	14.87	GLY	17.85	LEV	40.70	F
2111	SLK	05.25	ALG	24.80	CHS	24.90	PEC	26.80	PUL	18.25	F
2112	SLK	15.66	CAR	09.36	CHS	22.94	GEL	20.68	PHA	31.37	F
2113	MMT	19.36	AGR	28.79	PUL	04.90	GEL	29.67	SUA	17.28	F
2114	CAR	29.39	ZIN	32.55	GLY	13.30	XYL	24.75	-	00.00	F
2115	CMC	13.34	AGR	23.61	FFA	12.56	LAC	25.50	XYL	24.99	F
2116	LAP	46.13	MMT	08.54	ZIN	14.39	GLY	13.39	SUA	17.54	F
2117	CNF	24.62	PUL	33.26	GLY	28.71	XYL	13.41	-	00.00	F
2118	GEL	47.11	ZIN	04.99	FFA	15.93	LAC	26.97	SUA	04.99	F
2119	CAR	23.48	LEV	27.14	SUA	21.73	XYL	27.64	-	00.00	F
2120	CNF	08.19	CAR	16.77	GEL	33.10	GLY	23.30	LEV	18.65	F

Supplementary Table 2. 300 nanocomposites based on the variance sampling for the construction of an ANN classifier to define a design space.

ID	Composition Labels (wt.%)										Grade
1	CMC	03.62	ALG	39.81	ZIN	05.60	GLY	46.03	XYL	04.94	A
2	MMT	15.74	CNF	13.40	STA	36.81	LEV	08.55	XYL	25.50	A
3	MMT	14.60	CMC	21.97	PEC	23.90	GEL	16.53	LAC	23.00	A
4	MMT	25.71	SLK	16.21	PEC	14.66	LEV	26.21	XYL	17.21	A
5	ALG	33.36	STA	03.65	GEL	20.30	GLY	05.72	XYL	36.97	A
6	CHS	26.40	STA	16.35	LAC	23.15	SUA	18.15	XYL	15.95	A
7	ALG	20.94	GLU	18.74	LAC	18.15	LEV	04.93	SRB	37.24	A
8	CMC	12.40	CNF	22.32	GEL	08.90	FFA	30.94	XYL	25.44	A
9	LAP	18.25	CNF	23.45	CHS	13.90	GEL	18.54	GLY	25.86	A
10	MMT	10.09	CNF	32.87	STA	03.89	GLU	30.25	XYL	22.90	A
11	ALG	12.35	PEC	12.45	STA	38.16	PHA	18.15	SRB	18.90	A
12	ALG	27.48	STA	13.95	GLY	04.90	LAC	26.47	XYL	27.21	A
13	CHS	10.13	STA	21.08	LAC	23.00	LEV	18.40	SRB	27.40	A
14	CMC	15.23	CNF	42.22	ZIN	03.32	SRB	25.84	XYL	13.39	A
15	CMC	32.70	PEC	07.70	LAC	17.20	SUA	15.70	XYL	26.70	A
16	CAR	26.59	GLU	26.46	ZIN	07.73	LEV	29.01	XYL	10.20	A
17	MMT	17.42	CNF	04.32	GLU	23.27	LAC	30.17	XYL	24.81	A
18	LAP	23.79	MMT	21.14	CNF	25.07	PUL	08.00	GLY	21.99	A
19	MMT	21.61	SLK	15.07	PEC	18.91	STA	33.01	SRB	11.40	A
20	LAP	09.52	PEC	24.99	GEL	49.04	PHA	11.57	SUA	04.88	A
21	CMC	15.17	ALG	37.98	PHA	04.89	SRB	32.50	SUA	09.45	A
22	CMC	24.23	GEL	28.13	LEV	15.55	SRB	26.10	XYL	06.00	A
23	MMT	29.45	CNF	24.56	SLK	07.90	GLY	20.15	XYL	17.95	A
24	AGR	17.45	CAR	26.37	GLY	21.69	PHA	10.45	XYL	24.04	A
25	LAP	25.37	PEC	24.62	STA	03.63	GLY	32.25	SRB	14.12	A

26	CMC	08.07	CAR	02.66	PEC	26.05	SRB	09.86	XYL	53.35	A
27	CNF	25.36	STA	29.66	ZIN	15.23	SRB	13.25	XYL	16.50	A
28	CAR	07.81	PUL	38.24	GLY	30.45	FFA	15.95	SUA	07.55	A
29	CNF	04.14	AGR	31.83	CAR	34.16	ZIN	05.27	SRB	24.60	A
30	MMT	20.68	ALG	11.25	GEL	28.53	GLY	23.00	SUA	16.55	A
31	MMT	26.68	AGR	02.58	GEL	29.06	PHA	24.44	SRB	17.24	A
32	CMC	24.33	PUL	12.85	GEL	24.69	FFA	19.29	SUA	18.84	A
33	MMT	31.94	CMC	04.30	PEC	13.60	GEL	30.03	GLU	20.14	A
34	PUL	38.63	GEL	38.83	GLY	12.76	FFA	04.89	SRB	04.89	A
35	MMT	18.27	PEC	30.85	GEL	24.17	GLU	17.71	PHA	09.00	A
36	ALG	27.13	PUL	24.98	GEL	18.07	FFA	04.95	XYL	24.88	A
37	CMC	22.33	AGR	20.43	CAR	21.55	GLU	10.63	SRB	25.05	A
38	CMC	18.30	ALG	08.25	GLY	26.60	LAC	35.20	SRB	11.65	A
39	MMT	13.65	PUL	12.95	GEL	29.40	PHA	11.15	SUA	32.85	A
40	ALG	10.18	CAR	19.85	PUL	16.06	GLY	26.91	SUA	27.01	A
41	MMT	07.71	CMC	21.96	STA	22.58	SRB	40.04	XYL	07.70	A
42	LAP	09.97	MMT	16.04	PUL	04.96	GEL	29.06	LAC	39.97	A
43	MMT	23.56	CAR	08.03	PEC	11.95	LAC	29.95	SRB	26.50	A
44	PEC	05.00	PUL	19.84	STA	34.49	GEL	16.53	SRB	24.14	A
45	MMT	03.55	CMC	15.58	CAR	03.46	PEC	15.48	GLY	61.93	A
46	LAP	14.60	PUL	29.79	STA	26.47	GEL	17.20	GLY	11.95	A
47	MMT	35.78	SLK	12.80	CAR	09.28	GLY	09.90	SRB	32.25	A
48	CMC	20.51	PEC	15.51	PUL	19.31	LEV	23.06	XYL	21.61	A
49	MMT	26.04	CMC	19.26	GLY	32.01	FFA	04.88	XYL	17.81	A
50	MMT	18.70	CAR	16.64	GEL	14.30	SRB	24.95	XYL	25.40	A
51	PEC	22.55	PUL	25.60	GEL	16.40	SRB	18.70	SUA	16.75	A
52	CMC	03.50	AGR	15.01	PEC	28.05	LAC	35.84	SRB	17.60	A
53	CMC	14.14	CNF	28.05	GEL	26.31	FFA	08.45	XYL	23.06	A
54	MMT	28.14	ALG	18.92	PHA	10.90	SRB	30.69	SUA	11.35	A
55	ALG	10.64	CAR	17.64	STA	29.79	LEV	24.93	XYL	16.99	A

56	PUL	36.25	GEL	14.70	LAC	20.80	PHA	22.85	XYL	05.40	A
57	ALG	17.62	CAR	18.72	GEL	28.26	GLY	14.45	PHA	20.95	A
58	CNF	19.40	PUL	20.25	GLY	25.15	FFA	07.60	SRB	27.60	A
59	ALG	07.90	PUL	25.10	GEL	21.00	PHA	22.80	SRB	23.20	A
60	CNF	18.89	SLK	03.32	AGR	19.39	GEL	29.95	XYL	28.46	A
61	MMT	20.75	PEC	20.35	STA	04.07	LEV	27.89	XYL	26.94	A
62	CAR	29.32	PEC	05.84	GLY	04.95	SRB	36.26	XYL	23.63	A
63	LAP	10.95	CMC	14.54	ALG	20.25	PUL	25.35	GLY	28.90	A
64	CNF	25.58	ALG	21.40	STA	03.65	FFA	28.99	XYL	20.39	A
65	CNF	29.87	AGR	07.04	STA	34.59	LEV	20.01	XYL	08.50	A
66	ALG	22.16	STA	11.30	GEL	24.81	ZIN	07.97	GLY	33.76	A
67	PEC	27.87	PUL	16.74	GLY	36.63	LEV	13.84	PHA	04.92	A
68	PEC	16.35	STA	21.30	GLY	20.80	PHA	23.95	SRB	17.60	A
69	CAR	26.70	GEL	10.67	GLU	08.53	FFA	10.00	SRB	44.11	A
70	ALG	23.93	PUL	04.91	GEL	28.73	GLU	13.57	XYL	28.85	A
71	PEC	22.20	GEL	18.40	FFA	23.25	LEV	09.65	XYL	26.50	A
72	CNF	18.19	STA	18.01	GEL	23.84	FFA	14.95	XYL	25.01	A
73	LAP	17.85	MMT	28.00	AGR	02.72	SRB	20.70	XYL	30.74	A
74	MMT	34.23	CNF	03.64	STA	03.61	LAC	28.27	PHA	30.24	A
75	MMT	12.58	CNF	39.85	STA	09.58	LEV	04.89	SRB	33.11	A
76	CMC	09.49	PEC	30.81	STA	03.66	GLY	34.21	SUA	21.82	A
77	CMC	28.96	CNF	02.64	CAR	19.20	GLU	18.06	GLY	31.14	A
78	ALG	09.23	PUL	25.90	STA	13.02	GLY	30.75	FFA	21.10	A
79	CMC	30.41	PEC	27.40	GLU	19.14	GLY	11.75	FFA	11.30	A
80	PEC	16.00	PUL	23.25	GEL	11.80	GLU	21.21	LAC	27.75	A
81	MMT	28.71	PUL	15.90	FFA	18.35	LAC	16.70	PHA	20.35	A
82	AGR	21.90	ALG	09.70	PUL	06.10	STA	29.91	GLY	32.39	A
83	LAP	09.90	ALG	11.05	GEL	18.46	GLY	32.54	FFA	28.05	A
84	LAP	04.90	CNF	39.36	ALG	13.86	GLY	36.93	XYL	04.95	A
85	AGR	06.35	CHS	26.44	GEL	03.30	GLY	33.22	LAC	30.69	A

86	LAP	06.40	ALG	25.31	CAR	10.67	FFA	21.56	XYL	36.06	A
87	MMT	16.59	CNF	30.32	GLY	16.95	SUA	24.35	XYL	11.80	A
88	PEC	22.90	GLU	14.65	GLY	28.60	LAC	10.20	PHA	23.65	A
89	AGR	24.64	ALG	24.29	GEL	20.66	GLU	06.01	GLY	24.39	A
90	MMT	16.56	AGR	19.25	GEL	20.30	SRB	17.60	XYL	26.30	A
91	MMT	42.17	SLK	10.26	STA	22.87	FFA	10.90	SRB	13.80	A
92	MMT	10.88	SLK	15.77	PEC	22.50	PHA	27.95	SRB	22.90	A
93	CMC	17.69	PEC	06.92	GEL	55.13	GLY	04.91	SUA	15.35	A
94	AGR	17.82	CAR	22.71	STA	15.24	LAC	26.09	XYL	18.14	A
95	CMC	21.20	GEL	23.70	ZIN	05.43	GLY	34.46	SRB	15.20	A
96	MMT	23.59	CNF	29.57	LEV	14.20	SRB	20.84	XYL	11.80	A
97	MMT	30.34	ALG	03.72	LEV	12.05	PHA	17.95	XYL	35.94	A
98	MMT	22.64	CNF	28.11	AGR	27.07	STA	04.77	LEV	17.41	A
99	MMT	09.99	CNF	34.10	ALG	17.00	GLY	09.65	FFA	29.25	A
100	PEC	14.15	STA	28.28	GLY	18.31	SRB	18.56	XYL	20.71	A
101	MMT	25.21	CNF	21.61	CAR	11.26	GEL	19.81	SRB	22.11	A
102	AGR	13.41	CAR	26.12	PEC	11.74	STA	20.05	SRB	28.68	A
103	MMT	35.36	SLK	11.13	GLY	12.50	FFA	17.20	LAC	23.80	A
104	CHS	18.90	GEL	18.20	ZIN	11.64	LAC	10.60	XYL	40.66	A
105	LAP	13.45	MMT	23.56	PUL	16.80	GEL	36.34	GLY	09.85	A
106	ALG	19.36	GEL	03.32	LEV	27.45	SRB	41.00	XYL	08.87	A
107	MMT	21.96	ALG	19.77	GEL	25.87	LAC	22.85	SRB	09.55	A
108	ALG	19.40	ZIN	04.90	GLY	26.05	LAC	24.60	SRB	25.05	A
109	CNF	19.31	AGR	27.37	PUL	10.45	STA	30.02	LEV	12.85	A
110	MMT	04.41	CAR	31.63	ZIN	03.31	FFA	31.07	LAC	29.58	A
111	LAP	05.55	CMC	19.17	PUL	32.11	GLY	23.51	SRB	19.66	A
112	CMC	15.57	CAR	13.73	GLY	34.05	FFA	05.05	LEV	31.60	A
113	PUL	25.25	GEL	22.80	GLU	24.30	FFA	12.55	SUA	15.10	A
114	LAP	19.86	CMC	14.49	PUL	04.94	STA	54.49	GLY	06.22	A
115	MMT	29.65	CAR	07.74	ZIN	18.04	PHA	20.31	SRB	24.26	A

116	CMC	21.70	SLK	13.67	PUL	15.80	GEL	28.53	LEV	20.30	A
117	CMC	13.90	CAR	12.00	PUL	21.55	GEL	27.56	SRB	25.00	A
118	AGR	31.79	PUL	12.34	STA	40.16	FFA	04.96	SRB	10.75	A
119	ALG	19.00	STA	34.91	FFA	21.12	PHA	20.04	XYL	04.92	A
120	PEC	13.90	PUL	25.10	STA	25.96	GLY	18.25	SRB	16.80	A
121	CMC	17.80	GLU	03.14	GLY	32.90	LAC	11.90	SRB	34.25	A
122	MMT	20.82	ALG	13.20	GLU	19.79	SRB	19.05	XYL	27.15	A
123	LAP	06.20	ALG	21.71	PUL	21.73	LEV	21.98	SRB	28.38	A
124	MMT	19.06	CAR	23.16	STA	21.77	GLY	04.94	XYL	31.07	A
125	MMT	22.24	CAR	26.32	PEC	12.50	LAC	26.95	XYL	12.00	A
126	CMC	17.59	AGR	25.67	STA	16.79	GEL	12.66	SRB	27.29	A
127	PUL	25.40	GEL	14.17	GLU	20.09	SRB	15.55	SUA	24.80	F
128	MMT	15.81	CNF	19.50	STA	18.70	LAC	31.55	SUA	14.45	F
129	LAP	17.04	MMT	08.60	ALG	13.64	GLY	34.18	LAC	26.54	F
130	CAR	18.04	GLU	19.21	GLY	04.89	LAC	26.19	SRB	31.67	F
131	CMC	15.67	PEC	27.91	GEL	16.51	ZIN	17.04	SRB	22.86	F
132	CMC	12.96	PEC	25.75	ZIN	18.50	SUA	23.00	XYL	19.80	F
133	CAR	22.06	PEC	37.21	STA	05.24	GLU	26.38	FFA	09.10	F
134	MMT	03.50	CNF	21.73	STA	61.94	GEL	05.06	LAC	07.78	F
135	ALG	11.52	PUL	19.64	STA	27.45	LEV	30.59	SUA	10.80	F
136	CNF	36.97	PEC	07.90	GLY	12.80	PHA	11.00	XYL	31.34	F
137	CNF	06.02	PEC	18.16	PUL	09.70	STA	29.86	SRB	36.26	F
138	CAR	18.66	PEC	16.55	GLY	24.15	LAC	23.30	SRB	17.35	F
139	CNF	14.87	ALG	21.96	LAC	33.91	SRB	12.40	XYL	16.86	F
140	CMC	30.94	LAC	26.55	LEV	20.00	SUA	10.60	XYL	11.90	F
141	MMT	05.47	CMC	31.03	GEL	25.50	GLY	17.00	SUA	21.00	F
142	CNF	09.16	CAR	21.18	PEC	18.40	LAC	32.76	SUA	18.50	F
143	CNF	27.30	CAR	09.09	STA	17.05	FFA	11.85	LAC	34.70	F
144	CAR	15.10	PEC	14.61	GEL	31.28	LEV	05.00	SUA	34.01	F
145	MMT	29.98	ALG	17.34	CHS	13.99	GLY	17.49	LEV	21.19	F

146	CNF	20.71	ALG	28.11	GLY	20.09	PHA	11.19	SRB	19.89	F
147	AGR	10.05	PUL	32.44	GLU	18.67	PHA	17.05	SUA	21.80	F
148	CNF	20.55	AGR	18.99	FFA	21.21	LAC	16.85	SRB	22.41	F
149	ALG	09.82	PEC	13.45	GLU	25.00	FFA	08.70	LAC	43.03	F
150	CNF	21.10	PEC	11.60	STA	37.51	GLU	06.53	XYL	23.25	F
151	CNF	22.82	PUL	17.60	ZIN	23.37	FFA	09.85	SRB	26.35	F
152	AGR	11.30	CAR	13.74	PUL	23.95	STA	08.25	SRB	42.76	F
153	CNF	24.15	ALG	05.60	GEL	39.02	GLY	14.89	SUA	16.34	F
154	AGR	07.50	ALG	17.15	GEL	18.14	PHA	22.35	SRB	34.86	F
155	CNF	13.58	CAR	19.95	GLY	16.90	LAC	33.71	SRB	15.85	F
156	PUL	23.65	GEL	14.63	ZIN	06.07	LAC	31.00	SRB	24.65	F
157	MMT	19.26	SLK	04.37	GEL	10.80	LEV	05.95	SRB	59.63	F
158	LAP	24.39	CAR	22.37	PUL	18.50	LAC	24.44	SRB	10.30	F
159	MMT	17.31	CNF	26.13	GLY	26.76	PHA	20.65	XYL	09.15	F
160	CMC	37.84	CNF	10.80	GEL	03.33	GLY	22.62	SUA	25.41	F
161	LAP	19.21	CNF	23.13	GLU	19.30	GLY	24.71	SRB	13.65	F
162	CMC	11.97	ALG	10.60	GLY	28.61	PHA	16.06	XYL	32.76	F
163	MMT	30.67	CMC	23.01	CAR	17.68	GLY	23.73	LAC	04.90	F
164	CAR	11.90	CHS	25.04	GLY	18.20	LAC	27.01	SUA	17.85	F
165	LAP	17.30	MMT	23.41	CMC	19.53	GEL	05.93	ZIN	33.83	F
166	CAR	10.29	PUL	20.35	GLU	37.33	ZIN	23.73	XYL	08.30	F
167	ALG	23.85	CAR	08.64	ZIN	24.20	LAC	23.10	SRB	20.20	F
168	LAP	20.39	MMT	17.86	AGR	20.02	LEV	21.99	SRB	19.74	F
169	ALG	20.74	PEC	12.94	GLU	20.14	LEV	24.89	XYL	21.29	F
170	CMC	19.13	CNF	13.02	PUL	25.60	GLY	28.35	XYL	13.90	F
171	CNF	43.83	PEC	08.65	LAC	06.35	PHA	16.81	SRB	24.36	F
172	MMT	17.92	CMC	11.60	PEC	13.76	GLY	20.91	SUA	35.81	F
173	PUL	21.31	GLU	30.08	FFA	23.11	LAC	06.05	PHA	19.46	F
174	PEC	18.75	PUL	06.65	STA	25.22	ZIN	24.73	FFA	24.65	F
175	CMC	18.31	CHS	11.47	PUL	17.71	STA	30.01	GLY	22.51	F

176	LAP	18.21	CNF	02.16	PEC	33.56	GEL	39.52	XYL	06.55	F
177	PUL	18.35	STA	30.25	ZIN	14.50	SRB	18.40	XYL	18.50	F
178	ALG	14.02	CHS	03.32	GEL	30.40	GLY	29.89	SRB	22.38	F
179	LAP	04.95	CMC	25.58	AGR	20.55	LAC	06.78	SRB	42.14	F
180	CMC	21.83	SLK	09.13	STA	21.08	GLY	31.70	SUA	16.25	F
181	SLK	11.10	CAR	25.30	STA	15.87	GLY	30.14	XYL	17.59	F
182	CNF	30.36	STA	22.33	GLU	11.26	LEV	26.45	XYL	09.60	F
183	CMC	15.83	AGR	07.37	PUL	23.00	ZIN	28.40	SUA	25.40	F
184	LAP	35.43	CMC	15.38	FFA	10.37	SRB	33.85	XYL	04.96	F
185	MMT	19.33	CNF	11.74	ALG	10.27	STA	27.31	LEV	31.35	F
186	LAP	31.89	CMC	13.90	CHS	13.13	PUL	11.25	SRB	29.84	F
187	CNF	24.01	PUL	16.26	GLU	26.32	GLY	28.49	XYL	04.91	F
188	LAP	07.10	CNF	30.79	CAR	11.55	GLY	19.30	LAC	31.26	F
189	CHS	10.80	PEC	22.85	FFA	18.80	SUA	14.30	XYL	33.25	F
190	CMC	27.65	PUL	17.44	LAC	19.89	PHA	11.34	SRB	23.68	F
191	CAR	25.85	PUL	12.75	GEL	27.52	LAC	28.92	SRB	04.96	F
192	LAP	19.35	CAR	18.21	GEL	17.20	PHA	18.60	SRB	26.65	F
193	MMT	25.30	PUL	12.10	GEL	17.50	SUA	16.20	XYL	28.90	F
194	MMT	07.79	CHS	03.77	STA	19.07	GEL	34.21	SRB	35.16	F
195	ALG	07.72	PEC	26.73	ZIN	33.96	FFA	26.63	SRB	04.95	F
196	LAP	21.70	ALG	11.18	CHS	13.10	GLU	25.01	LAC	29.00	F
197	MMT	18.34	CNF	26.25	CAR	03.28	PEC	21.21	SUA	30.91	F
198	MMT	31.73	CNF	25.34	CAR	16.03	LEV	20.20	SRB	06.70	F
199	PEC	25.75	ZIN	32.46	FFA	11.40	LEV	10.40	XYL	20.00	F
200	ALG	18.40	CAR	27.95	GEL	33.84	ZIN	04.00	LAC	15.80	F
201	CMC	15.67	STA	26.51	GEL	19.43	GLY	15.05	LAC	23.35	F
202	MMT	27.65	CNF	11.30	GEL	06.73	GLY	26.36	FFA	27.96	F
203	MMT	03.53	PEC	15.04	SRB	20.70	SUA	22.44	XYL	38.28	F
204	ALG	07.60	PUL	23.55	GEL	29.20	LEV	14.95	PHA	24.70	F
205	CAR	23.90	PEC	15.70	GEL	07.74	LAC	36.76	LEV	15.90	F

206	CNF	11.08	CAR	26.13	ZIN	20.20	LAC	26.25	SUA	16.35	F
207	MMT	24.70	CNF	27.38	AGR	13.42	LAC	22.80	XYL	11.70	F
208	CAR	12.55	STA	19.97	FFA	41.88	LAC	14.24	SUA	11.35	F
209	PEC	11.14	GEL	27.98	LEV	04.91	SRB	37.70	XYL	18.26	F
210	PEC	21.99	ZIN	14.29	PHA	21.49	SRB	17.54	XYL	24.69	F
211	MMT	15.88	PEC	15.45	STA	07.33	LAC	32.39	LEV	28.94	F
212	AGR	02.93	PUL	17.90	STA	26.07	LEV	29.00	SRB	24.10	F
213	MMT	13.43	CNF	22.35	GLU	25.63	FFA	12.10	PHA	26.49	F
214	MMT	15.18	PEC	13.50	ZIN	17.77	SUA	12.65	XYL	40.90	F
215	LAP	17.75	CMC	14.90	AGR	26.36	LAC	10.50	SRB	30.49	F
216	MMT	31.80	CMC	14.76	CNF	12.04	LAC	18.00	XYL	23.40	F
217	CAR	23.79	PEC	08.70	GEL	33.10	GLU	22.41	LEV	12.00	F
218	AGR	39.36	CAR	07.12	STA	17.19	ZIN	10.73	XYL	25.60	F
219	CMC	04.10	CNF	18.14	PUL	30.80	GLY	26.45	PHA	20.50	F
220	CAR	18.98	PEC	09.40	GLU	43.23	GLY	07.20	LAC	21.19	F
221	CAR	09.87	CHS	14.64	ZIN	09.63	LAC	48.21	XYL	17.65	F
222	LAP	04.93	CMC	31.63	CNF	21.33	ZIN	03.29	XYL	38.82	F
223	LAP	22.50	MMT	07.57	PUL	30.99	LAC	18.45	LEV	20.50	F
224	CAR	18.75	PEC	17.35	PUL	20.35	LEV	18.00	SRB	25.55	F
225	CNF	20.33	CAR	14.59	ZIN	22.87	SRB	21.71	XYL	20.51	F
226	CAR	35.20	CHS	07.04	GLY	33.72	FFA	24.04	-	00.00	F
227	CNF	41.76	AGR	05.16	CHS	03.33	GEL	18.64	XYL	31.11	F
228	CAR	30.58	CHS	13.17	PUL	22.70	PHA	04.91	SRB	28.64	F
229	CAR	14.02	STA	32.45	GLU	17.44	GLY	16.35	SUA	19.75	F
230	SLK	04.14	PEC	17.11	STA	34.19	LAC	28.46	XYL	16.11	F
231	SLK	03.47	STA	34.23	GEL	06.13	FFA	45.43	SRB	10.74	F
232	MMT	27.01	CMC	17.37	CHS	10.53	SUA	11.40	XYL	33.70	F
233	CAR	23.33	GEL	04.10	ZIN	14.77	LAC	16.45	SRB	41.35	F
234	CMC	10.43	PEC	23.80	PUL	20.70	GLU	31.57	FFA	13.50	F
235	LAP	21.30	CAR	20.79	FFA	23.47	LAC	29.50	XYL	04.94	F

236	CMC	12.46	STA	03.63	GEL	30.99	ZIN	28.29	GLY	24.63	F
237	CMC	20.36	SLK	06.36	ZIN	28.99	GLY	30.34	SRB	13.95	F
238	LAP	06.45	GEL	32.57	GLU	19.38	LAC	10.95	LEV	30.65	F
239	CNF	24.38	CAR	02.65	PUL	22.01	ZIN	19.71	PHA	31.25	F
240	CMC	21.20	CNF	30.30	CHS	06.03	GLU	16.13	LAC	26.35	F
241	MMT	07.43	AGR	10.70	STA	54.36	GLU	09.35	LEV	18.16	F
242	MMT	27.05	GLU	14.03	ZIN	31.91	PHA	19.01	SUA	08.00	F
243	MMT	33.31	SLK	36.15	GEL	03.33	GLU	12.50	LAC	14.71	F
244	MMT	30.87	SLK	17.46	SRB	09.00	SUA	11.84	XYL	30.84	F
245	MMT	17.13	PUL	13.20	GLY	25.76	FFA	19.35	PHA	24.56	F
246	LAP	19.45	CHS	27.03	PUL	18.95	STA	15.62	SRB	18.95	F
247	CAR	24.91	STA	14.26	ZIN	11.93	FFA	26.80	XYL	22.10	F
248	CNF	31.16	ZIN	30.79	LAC	28.38	LEV	04.84	SUA	04.84	F
249	ALG	22.36	GEL	11.34	GLU	08.69	GLY	21.51	LAC	36.11	F
250	LAP	06.30	SLK	28.20	AGR	30.77	GEL	19.73	GLY	15.00	F
251	CAR	13.39	STA	20.65	GLU	19.93	ZIN	16.84	XYL	29.20	F
252	LAP	20.66	MMT	14.54	GEL	14.54	PHA	25.91	XYL	24.36	F
253	MMT	24.64	SLK	12.10	CHS	11.44	PEC	16.71	XYL	35.11	F
254	LAP	06.90	CMC	27.23	GEL	15.27	GLY	19.35	LAC	31.25	F
255	AGR	11.35	STA	48.10	ZIN	05.57	FFA	27.79	PHA	07.20	F
256	CNF	33.62	PUL	13.35	GLU	05.99	LAC	34.00	SRB	13.05	F
257	SLK	24.43	PEC	13.10	PUL	10.15	ZIN	22.19	XYL	30.14	F
258	LAP	09.75	AGR	17.00	PUL	37.60	LAC	21.30	XYL	14.35	F
259	CAR	12.72	PEC	13.50	PUL	23.71	GLU	30.57	SUA	19.50	F
260	LAP	05.60	MMT	21.82	SLK	20.93	FFA	19.20	SRB	32.45	F
261	CAR	21.39	GEL	16.00	ZIN	09.77	SRB	22.75	XYL	30.10	F
262	CHS	03.33	PEC	18.03	FFA	39.07	SRB	20.03	XYL	19.53	F
263	CMC	11.97	PEC	23.45	GLU	18.23	ZIN	20.94	GLY	25.40	F
264	GLU	32.05	ZIN	16.26	LAC	24.49	SRB	08.80	XYL	18.39	F
265	CAR	09.63	PEC	12.10	ZIN	03.60	FFA	47.06	XYL	27.61	F

266	CMC	26.49	CNF	07.02	PUL	19.50	ZIN	18.50	SRB	28.49	F
267	PUL	04.93	STA	23.85	GEL	15.31	SRB	27.30	XYL	28.63	F
268	PEC	23.80	GLU	22.76	LAC	12.10	LEV	32.39	XYL	08.95	F
269	PEC	17.20	STA	43.26	GEL	04.80	GLU	13.50	PHA	21.25	F
270	LAP	19.60	CAR	15.76	GEL	19.20	GLY	21.65	SUA	23.80	F
271	MMT	23.53	CNF	25.75	LEV	04.95	PHA	23.16	SRB	22.61	F
272	CMC	21.79	CNF	23.57	FFA	21.24	LAC	24.29	SRB	09.10	F
273	CMC	25.07	CHS	03.73	GLU	22.14	FFA	26.05	SRB	23.00	F
274	CMC	09.20	STA	32.24	GLY	13.95	FFA	24.35	SRB	20.25	F
275	CNF	33.97	SLK	03.31	GLU	15.04	SRB	37.45	SUA	10.23	F
276	CMC	14.14	AGR	12.29	GEL	09.90	SRB	27.46	XYL	36.21	F
277	CAR	21.19	PUL	13.89	GEL	28.89	LAC	14.34	SUA	21.69	F
278	AGR	27.59	ALG	13.75	CAR	22.35	LAC	16.95	SRB	19.35	F
279	MMT	28.48	CNF	14.69	GLY	04.94	LAC	38.69	SRB	13.19	F
280	CHS	19.81	PEC	26.95	GEL	14.15	PHA	04.94	XYL	34.16	F
281	MMT	24.77	CMC	13.33	CAR	07.39	LAC	19.85	SUA	34.65	F
282	CNF	11.46	CHS	06.00	PEC	22.50	PUL	23.25	SRB	36.80	F
283	CAR	28.19	PEC	06.70	GLU	22.45	GLY	27.56	XYL	15.10	F
284	LAP	28.33	CNF	24.86	GEL	03.31	PHA	12.18	SRB	31.32	F
285	CNF	20.72	GEL	28.10	ZIN	21.47	PHA	05.20	SRB	24.50	F
286	SLK	31.44	PEC	19.80	PUL	06.50	SRB	10.80	XYL	31.46	F
287	CNF	18.97	PEC	20.91	FFA	23.31	LEV	15.26	XYL	21.56	F
288	CMC	16.16	PUL	24.50	GLY	13.75	SRB	19.10	SUA	26.50	F
289	LAP	11.50	CNF	02.78	PEC	11.70	PUL	37.11	LEV	36.91	F
290	SLK	03.30	PUL	36.76	LAC	33.98	PHA	04.95	SRB	21.00	F
291	PEC	25.50	GEL	08.37	GLU	20.03	LEV	12.50	XYL	33.60	F
292	MMT	06.07	PUL	38.29	STA	27.42	GEL	08.03	XYL	20.19	F
293	CNF	26.20	CAR	14.74	GEL	31.16	FFA	15.80	LAC	12.10	F
294	MMT	12.12	CMC	13.30	PEC	25.26	GLY	24.21	LAC	25.11	F
295	CHS	08.83	PUL	28.36	FFA	04.91	SRB	31.01	SUA	26.89	F

296	MMT	32.24	CAR	03.73	CHS	10.97	FFA	20.20	XYL	32.86	F
297	PEC	29.76	GLU	31.99	LAC	18.25	LEV	08.15	XYL	11.85	F
298	CMC	21.71	CNF	08.30	STA	22.96	GLU	16.16	LAC	30.86	F
299	SLK	31.48	AGR	16.64	ZIN	10.41	SRB	21.41	XYL	20.06	F
300	MMT	03.55	PEC	11.48	PUL	32.40	GLU	28.71	GLY	23.86	F

Supplementary Table 3. 180 nanocomposite samples to serve as the testing data for validating the performance of an ANN classifier.

ID	Composition Labels (wt.%)										Grade
1	CMC	02.47	AGR	03.34	ALG	10.34	LEV	41.03	SUA	42.81	A
2	CMC	37.10	GEL	30.78	LEV	06.26	XYL	25.86	-	00.00	A
3	ALG	57.04	PUL	07.96	XYL	35.00	-	00.00	-	00.00	A
4	MMT	29.84	SLK	42.05	ZIN	03.68	SUA	24.42	-	00.00	A
5	CAR	52.86	FFA	10.76	PHA	09.30	XYL	27.08	-	00.00	A
6	LAP	07.80	MMT	18.26	PUL	37.21	GEL	36.73	-	00.00	A
7	MMT	37.42	GLU	39.78	LAC	22.80	-	00.00	-	00.00	A
8	CNF	28.21	ALG	19.40	PUL	05.35	GLU	18.64	GLY	28.40	A
9	AGR	12.01	CHS	28.77	PUL	29.69	XYL	29.53	-	00.00	A
10	SLK	36.28	CHS	39.72	GEL	11.66	GLY	06.35	XYL	06.00	A
11	CMC	41.34	CHS	16.84	LAC	22.93	PHA	18.89	-	00.00	A
12	MMT	09.59	AGR	26.54	CHS	18.97	LAC	44.90	-	00.00	A
13	MMT	19.31	CMC	25.56	PUL	23.21	ZIN	06.97	XYL	24.96	A
14	CMC	28.46	GEL	07.14	FFA	31.37	SUA	33.03	-	00.00	A
15	CNF	15.73	CAR	16.59	PUL	25.31	GLY	17.01	LAC	25.36	A
16	CMC	09.47	CNF	36.39	GEL	48.12	LEV	06.01	-	00.00	A
17	MMT	32.04	SLK	21.80	ALG	05.65	PUL	10.50	LAC	30.01	A
18	LAP	08.33	CNF	29.02	AGR	03.52	ZIN	03.33	LAC	55.80	A
19	LAP	08.60	MMT	30.62	CNF	03.18	ZIN	36.84	LAC	20.75	A
20	CMC	05.40	AGR	32.98	ALG	35.61	GLY	16.55	LEV	09.45	A
21	LAP	06.05	CHS	38.37	GEL	05.30	GLY	20.44	LAC	29.84	A
22	CMC	27.85	CNF	19.74	AGR	23.53	SUA	28.88	-	00.00	A
23	ALG	24.38	CHS	56.13	FFA	19.48	-	00.00	-	00.00	A
24	CNF	13.36	CHS	31.95	PUL	23.89	LEV	30.80	-	00.00	A
25	CNF	51.32	CAR	08.14	GLU	35.50	PHA	05.04	-	00.00	A
26	CMC	33.17	GEL	18.15	LEV	48.68	-	00.00	-	00.00	A

27	MMT	35.43	ALG	20.35	PHA	16.81	XYL	27.42	-	00.00	A
28	PUL	09.60	GEL	54.59	GLU	30.36	ZIN	05.46	-	00.00	A
29	ALG	28.28	PUL	26.46	GLU	23.08	PHA	22.17	-	00.00	A
30	MMT	11.16	SLK	04.91	GEL	33.71	ZIN	35.15	GLY	15.07	A
31	ALG	30.03	CAR	28.17	GEL	36.83	PHA	04.96	-	00.00	A
32	MMT	18.05	CHS	29.75	GLY	20.20	LEV	10.25	XYL	21.75	F
33	GEL	47.29	GLY	05.01	FFA	09.17	LAC	38.53	-	00.00	F
34	CMC	28.88	SLK	07.28	PUL	42.08	PHA	21.75	-	00.00	F
35	CHS	29.52	PUL	30.00	GLU	31.10	LAC	09.39	-	00.00	F
36	SLK	04.91	ALG	46.04	ZIN	44.13	LEV	04.91	-	00.00	F
37	CHS	14.12	PUL	06.01	ZIN	71.94	LAC	07.93	-	00.00	F
38	ALG	04.88	GEL	14.60	GLU	28.88	GLY	20.58	SUA	31.07	F
39	CHS	17.10	GEL	21.62	GLY	04.91	FFA	28.40	LEV	27.96	F
40	CMC	48.97	SLK	05.02	ZIN	35.16	XYL	10.85	-	00.00	F
41	SLK	09.75	ALG	33.89	GEL	04.14	GLY	52.22	-	00.00	F
42	ALG	22.05	CAR	07.15	CHS	25.65	PUL	26.50	ZIN	18.66	F
43	SLK	04.89	ALG	31.63	CAR	32.30	CHS	09.02	GLU	22.16	F
44	CMC	23.32	CNF	07.13	ALG	23.14	CAR	22.42	GLY	23.99	F
45	CNF	50.40	ALG	05.60	CHS	07.55	PUL	30.55	SUA	05.90	F
46	MMT	40.61	ALG	20.31	CHS	29.27	FFA	04.91	LEV	04.91	F
47	MMT	15.28	SLK	15.40	ZIN	29.21	LEV	24.80	SUA	15.30	F
48	LAP	04.96	AGR	11.67	ZIN	09.10	LAC	35.69	SUA	38.57	F
49	CNF	04.26	SLK	06.45	GEL	31.32	SUA	23.24	XYL	34.73	F
50	ALG	36.48	PUL	26.73	SUA	36.79	-	00.00	-	00.00	F
51	MMT	36.62	CMC	43.78	CNF	04.57	AGR	05.17	ALG	09.85	F
52	CNF	14.62	GEL	19.83	FFA	39.14	LAC	26.41	-	00.00	F
53	LAP	26.90	PUL	19.90	GEL	05.97	LAC	20.75	XYL	26.50	F
54	AGR	26.86	GLU	25.20	LEV	08.20	PHA	25.99	SUA	13.74	F
55	AGR	34.95	CHS	36.69	GEL	08.01	LEV	20.35	-	00.00	F
56	AGR	15.88	GLU	20.81	GLY	28.69	XYL	34.62	-	00.00	F

57	LAP	26.59	CMC	27.52	CHS	02.46	GLU	03.63	GLY	39.81	F
58	CMC	34.99	SLK	41.96	ALG	04.91	CHS	09.79	ZIN	08.34	F
59	LAC	30.87	PHA	24.66	XYL	44.47	-	00.00	-	00.00	F
60	ALG	10.34	PHA	34.28	SUA	36.36	XYL	19.02	-	00.00	F
61	CNF	22.27	AGR	02.47	CHS	47.05	FFA	04.95	SUA	23.25	F
62	LAP	23.65	MMT	20.80	GEL	23.46	GLY	13.50	LAC	18.60	F
63	LAP	04.96	MMT	11.64	SLK	31.50	GLU	23.58	GLY	28.32	F
64	LAP	38.76	CAR	15.39	CHS	06.80	LEV	39.06	-	00.00	F
65	CMC	26.57	CAR	19.91	GLU	26.85	XYL	26.67	-	00.00	F
66	GLU	24.69	ZIN	39.74	LAC	04.98	SUA	30.60	-	00.00	F
67	LAP	54.53	MMT	38.50	ALG	06.97	-	00.00	-	00.00	F
68	CNF	35.48	AGR	03.32	GEL	09.22	ZIN	47.01	LAC	04.96	F
69	MMT	33.78	CHS	07.67	PUL	35.68	ZIN	03.33	FFA	19.54	F
70	GLU	30.32	GLY	20.20	LAC	29.17	LEV	20.30	-	00.00	F
71	CMC	22.28	SLK	10.45	GLY	18.00	LAC	26.91	XYL	22.36	F
72	MMT	02.77	AGR	73.46	CHS	08.16	GEL	15.61	-	00.00	F
73	MMT	22.77	GLU	22.71	FFA	39.68	LAC	09.91	XYL	04.93	F
74	MMT	33.53	GLU	08.23	GLY	17.40	LEV	35.70	PHA	05.15	F
75	ALG	37.44	CHS	08.47	GLY	09.20	LAC	05.40	LEV	39.49	F
76	LAP	31.55	MMT	17.69	PUL	04.88	GLU	27.26	PHA	18.61	F
77	ALG	25.20	CHS	28.76	GEL	19.98	GLU	26.06	-	00.00	F
78	MMT	50.10	GLY	20.46	SUA	29.44	-	00.00	-	00.00	F
79	CNF	29.02	AGR	08.58	GLU	11.85	FFA	22.50	PHA	28.05	F
80	MMT	28.07	SLK	04.97	ALG	31.81	PUL	20.73	GLY	14.42	F
81	LAP	04.89	CHS	09.64	ZIN	32.37	FFA	31.66	SUA	21.44	F
82	CMC	46.67	ALG	33.87	PUL	13.99	LAC	05.48	-	00.00	F
83	LAP	20.38	SLK	16.82	PUL	30.98	GLU	03.64	FFA	28.17	F
84	SLK	08.79	GEL	33.74	GLY	39.24	XYL	18.23	-	00.00	F
85	GLU	03.70	GLY	56.16	LEV	35.14	SUA	05.01	-	00.00	F
86	LAP	22.00	MMT	21.24	CMC	22.90	GLU	09.27	SUA	24.60	F

87	CMC	02.51	CNF	25.47	SUA	48.37	XYL	23.66	-	00.00	F
88	LAP	36.29	MMT	02.74	CMC	22.39	CNF	33.65	GLY	04.93	F
89	CNF	50.99	SLK	14.85	AGR	23.60	CAR	03.23	ZIN	07.33	F
90	LAP	18.45	PUL	26.60	ZIN	21.20	GLY	23.70	LEV	10.05	F
91	LAP	29.13	CMC	25.31	SLK	12.45	CAR	02.65	GEL	30.47	F
92	MMT	02.79	SLK	31.01	GLY	20.21	LEV	45.99	-	00.00	F
93	MMT	27.69	PUL	05.03	GLY	58.73	SUA	08.55	-	00.00	F
94	SLK	12.75	ALG	25.46	CHS	14.53	FFA	31.61	SUA	15.65	F
95	SLK	21.54	AGR	29.80	CHS	13.32	SUA	35.34	-	00.00	F
96	MMT	11.51	AGR	27.02	FFA	29.39	PHA	14.55	SUA	17.54	F
97	CMC	33.88	SUA	35.60	XYL	30.52	-	00.00	-	00.00	F
98	LAP	44.17	ALG	34.30	CHS	04.47	PUL	12.17	XYL	04.89	F
99	AGR	36.77	CAR	36.04	GLU	08.50	SUA	18.69	-	00.00	F
100	CNF	22.49	PUL	28.19	ZIN	27.38	SUA	21.93	-	00.00	F
101	CMC	02.47	AGR	22.16	GEL	23.44	GLU	26.36	LAC	25.57	F
102	CHS	09.10	GEL	39.81	GLU	03.77	PHA	47.32	-	00.00	F
103	LAP	17.25	CAR	23.91	CHS	03.62	GEL	30.42	SUA	24.79	F
104	PUL	07.93	ZIN	20.98	LAC	36.22	PHA	34.86	-	00.00	F
105	SLK	05.86	AGR	44.23	ZIN	04.14	GLY	45.77	-	00.00	F
106	CMC	11.77	SLK	06.16	CAR	38.26	FFA	43.80	-	00.00	F
107	CMC	03.58	AGR	03.93	CAR	12.40	CHS	36.26	GEL	43.84	F
108	CMC	38.08	CNF	34.68	CAR	13.44	GLY	04.89	FFA	08.91	F
109	MMT	07.58	PUL	27.33	GLU	31.28	LEV	33.81	-	00.00	F
110	CAR	56.37	GLU	32.09	LAC	06.57	PHA	04.97	-	00.00	F
111	MMT	11.81	ZIN	03.29	GLY	20.30	LEV	04.94	PHA	59.66	F
112	LAP	41.74	CMC	02.49	CAR	45.37	GEL	03.45	ZIN	06.94	F
113	LAP	37.91	AGR	21.58	CHS	06.48	ZIN	04.33	LAC	29.70	F
114	LAP	37.76	ZIN	19.65	SUA	37.66	XYL	04.93	-	00.00	F
115	LAP	51.25	CAR	05.09	PUL	43.65	-	00.00	-	00.00	F
116	LAP	04.92	MMT	24.68	CMC	19.20	AGR	26.04	GLU	25.16	F

117	AGR	05.47	CAR	15.62	PUL	30.23	SUA	27.84	XYL	20.84	F
118	GEL	26.67	GLY	08.33	LEV	05.02	SUA	59.98	-	00.00	F
119	CMC	39.29	CAR	44.90	PHA	10.81	XYL	05.00	-	00.00	F
120	SLK	20.82	PUL	30.62	LEV	24.10	XYL	24.46	-	00.00	F
121	MMT	04.22	AGR	36.11	ZIN	40.04	LEV	04.88	SUA	14.75	F
122	MMT	09.52	FFA	23.78	PHA	42.56	XYL	24.13	-	00.00	F
123	LAP	10.10	AGR	40.03	CAR	03.01	FFA	07.40	LEV	39.45	F
124	LAP	19.20	CMC	37.11	AGR	32.94	LAC	10.76	-	00.00	F
125	CMC	26.53	CNF	09.72	GLU	17.10	GLY	21.05	PHA	25.60	F
126	CNF	34.56	ZIN	14.38	LEV	45.91	SUA	05.15	-	00.00	F
127	CNF	04.53	CAR	34.51	PUL	04.89	PHA	35.78	SUA	20.28	F
128	MMT	79.55	GLY	10.50	FFA	04.97	LAC	04.97	-	00.00	F
129	CHS	24.99	FFA	25.78	LAC	26.03	XYL	23.20	-	00.00	F
130	CMC	20.57	ALG	12.95	GEL	27.63	FFA	20.95	PHA	17.90	F
131	CMC	02.47	SLK	36.85	GEL	45.87	LAC	07.41	SUA	07.41	F
132	MMT	02.82	ALG	55.45	PHA	41.74	-	00.00	-	00.00	F
133	MMT	11.87	CMC	22.94	CNF	16.93	CHS	29.99	GLU	18.27	F
134	PUL	06.50	GEL	14.34	ZIN	14.14	LEV	33.16	PHA	31.86	F
135	LAP	04.98	AGR	50.40	SUA	05.98	XYL	38.65	-	00.00	F
136	CNF	35.84	AGR	03.99	CAR	43.74	LEV	16.42	-	00.00	F
137	ALG	21.28	GLU	37.87	ZIN	03.31	SUA	15.48	XYL	22.07	F
138	CAR	22.32	GLY	22.45	FFA	22.70	SUA	16.90	XYL	15.65	F
139	CAR	05.60	CHS	27.19	GLU	23.18	LEV	20.44	PHA	23.59	F
140	CNF	13.58	ZIN	15.72	FFA	44.44	XYL	26.26	-	00.00	F
141	SLK	40.56	FFA	42.70	PHA	16.73	-	00.00	-	00.00	F
142	CNF	16.37	SLK	24.19	LAC	29.04	LEV	17.20	SUA	13.20	F
143	LAP	19.70	MMT	05.63	CNF	35.40	AGR	06.37	ALG	32.90	F
144	LAP	15.05	PUL	20.00	LAC	26.05	LEV	28.80	PHA	10.10	F
145	CMC	21.18	GLY	42.41	SUA	36.41	-	00.00	-	00.00	F
146	AGR	26.95	CAR	14.40	PUL	13.35	GEL	33.37	ZIN	11.93	F

147	CNF	23.37	SLK	25.46	CAR	25.57	SUA	25.61	-	00.00	F
148	MMT	26.79	CAR	28.88	GEL	21.93	GLU	22.40	-	00.00	F
149	GLU	03.71	GLY	35.45	FFA	46.66	LAC	14.18	-	00.00	F
150	CMC	17.57	SLK	15.90	GLU	26.43	ZIN	25.76	FFA	14.35	F
151	PUL	80.00	ZIN	12.14	LEV	07.86	-	00.00	-	00.00	F
152	CNF	30.67	AGR	02.58	FFA	26.40	LEV	14.60	SUA	25.75	F
153	LAP	30.18	ZIN	34.89	PHA	34.93	-	00.00	-	00.00	F
154	MMT	02.74	AGR	09.47	CAR	45.65	GEL	03.50	GLY	38.64	F
155	CAR	27.35	ZIN	27.36	LEV	11.90	PHA	20.34	XYL	13.05	F
156	CNF	13.58	CHS	22.63	PUL	20.00	GEL	17.94	GLY	25.85	F
157	SLK	56.16	CAR	11.60	CHS	07.58	GEL	06.80	PHA	17.85	F
158	ALG	30.45	CAR	19.52	GEL	07.87	GLY	09.70	LAC	32.45	F
159	SLK	24.32	AGR	16.14	GLY	20.32	LAC	13.76	PHA	25.47	F
160	LAP	25.38	CMC	34.09	CHS	13.03	GLU	03.65	FFA	23.85	F
161	MMT	19.20	AGR	09.67	CAR	23.14	PHA	04.90	SUA	43.09	F
162	CNF	34.09	GLU	06.90	LAC	23.20	LEV	08.80	XYL	27.00	F
163	MMT	02.75	ALG	21.60	CHS	25.91	PHA	26.90	XYL	22.84	F
164	LAP	48.14	CNF	03.15	CHS	29.81	PHA	18.91	-	00.00	F
165	CNF	19.93	SLK	27.30	GEL	20.10	GLU	23.07	PHA	09.60	F
166	CNF	20.27	ALG	05.04	ZIN	26.17	XYL	48.52	-	00.00	F
167	CAR	04.08	ZIN	25.04	GLY	28.96	FFA	12.95	PHA	28.96	F
168	LAP	19.24	MMT	25.71	CNF	26.78	AGR	28.27	-	00.00	F
169	SLK	34.42	AGR	40.33	FFA	20.16	LAC	05.09	-	00.00	F
170	LAP	24.91	SLK	19.20	AGR	30.72	GLU	25.18	-	00.00	F
171	AGR	11.75	ALG	24.40	GEL	18.73	ZIN	20.87	XYL	24.25	F
172	LAP	22.92	CNF	11.56	SLK	37.67	ZIN	16.84	FFA	11.01	F
173	MMT	29.12	CNF	63.58	GLY	07.30	-	00.00	-	00.00	F
174	SLK	35.75	AGR	03.35	ZIN	10.50	PHA	17.35	XYL	33.05	F
175	CAR	46.94	CHS	08.35	PUL	25.50	LEV	09.25	SUA	09.95	F
176	GLU	07.05	ZIN	12.13	FFA	75.84	PHA	04.97	-	00.00	F

177	SLK	22.03	ZIN	34.92	GLY	24.63	XYL	18.41	-	00.00	F
178	LAP	10.56	AGR	45.10	PUL	35.35	GLU	08.99	-	00.00	F
179	CAR	02.61	PUL	17.94	GEL	03.26	GLU	49.12	FFA	27.08	F
180	MMT	26.19	AGR	26.39	PUL	22.12	PHA	25.30	-	00.00	F

Supplementary Table 4. Independent (i.e., input) and dependent (i.e., output) labels used in the prediction model.

Independent Labels	Unit	Physical Meaning Description
Component Loading	wt. %	Weight percentage of a specific component in a nanocomposite film
Dependent Labels	Unit	Physical Meaning Description
T_{UV}	%	Light transmittance at 365 nm
T_{Vis}	%	Light transmittance at 550 nm
T_{IR}	%	Light transmittance at 950 nm
RR	—	Residual ratio of fire-retardancy test
σ_u	MPa	Ultimate tensile strength
ε_f	%	Fracture strain
E	GPa	Young's modulus
SED	MJ m ⁻³	Strain energy density

Supplementary Table 5. 343 nanocomposite data points collected during active learning loops.

ID	Composition Labels (wt.%)					Property Labels							
						T_{Vis} (%)	T_{IR} (%)	T_{UV} (%)	σ_u (MPa)	ε_f (%)	E (GPa)	SED (MJ m ⁻³)	RR (–)
1	CMC 66.36	AGR 02.19	CAR 12.47	GLU 14.49	FFA 04.49	67.6	65.4	42.0	19.64	1.75	1.66	0.17	0.20
2	LAP 30.80	MMT 18.99	CNF 05.02	STA 29.48	XYL 15.71	81.3	80.2	50.3	6.52	0.17	4.21	0.01	1.00
3	CMC 19.96	CNF 25.04	ALG 15.80	LAC 22.50	LEV 16.70	72.0	71.1	45.2	28.04	5.97	1.55	1.23	–
4	MMT 26.41	SLK 27.81	STA 32.61	ZIN 08.37	PHA 04.80	65.6	67.7	34.1	19.84	0.40	6.53	0.04	1.00
5	LAP 03.40	CNF 54.32	PUL 39.28	FFA 01.50	SUA 01.50	56.9	56.8	41.4	31.52	1.21	3.66	0.20	–
6	CAR 13.24	STA 39.81	GLY 05.90	FFA 35.87	LAC 05.17	77.0	79.6	52.8	12.54	1.77	1.43	0.09	0.00
7	MMT 13.55	CMC 37.78	CNF 32.55	ALG 01.50	PUL 14.61	75.7	74.9	54.3	47.88	3.84	3.77	1.31	0.01
8	ALG 67.90	GEL 03.00	GLY 08.31	PHA 01.50	SUA 19.28	76.1	70.6	50.5	20.48	8.55	0.95	1.37	0.15
9	CMC 19.70	CNF 22.35	ALG 20.23	FFA 17.44	XYL 20.27	79.1	78.6	61.9	43.35	1.64	3.87	0.32	0.01
10	CMC 26.63	ALG 04.71	CAR 25.30	FFA 18.68	LAC 24.67	75.2	72.8	51.6	19.27	0.82	3.40	0.07	–
11	CMC 61.26	FFA 20.46	LAC 08.97	SUA 01.50	XYL 07.81	74.9	72.5	55.4	17.74	13.04	0.74	1.79	0.17
12	MMT 12.63	CMC 37.25	CNF 24.66	GEL 14.02	FFA 11.44	74.2	76.5	46.3	87.26	2.97	4.96	1.61	0.23
13	CHS 24.63	PUL 16.58	GEL 31.89	GLY 22.37	LAC 04.53	76.8	78.3	56.7	3.60	147.55	0.01	1.35	0.01

14	LAP 13.84	CAR 20.06	PUL 32.14	LAC 24.98	PHA 08.97	68.1	65.6	32.3	15.62	1.18	1.98	0.07	0.63
15	LAP 03.79	CNF 41.96	AGR 06.73	LAC 01.50	XYL 46.03	68.5	62.4	35.3	10.35	2.08	1.19	0.14	–
16	CHS 74.66	PUL 01.50	GEL 16.84	ZIN 03.60	GLY 03.40	77.3	78.8	48.3	59.40	7.37	2.35	3.67	0.02
17	MMT 03.42	CMC 35.65	CNF 31.54	CAR 03.02	GLY 26.37	77.9	76.6	56.9	33.05	35.10	1.43	8.83	0.01
18	CHS 29.35	GEL 27.05	GLU 17.73	GLY 15.59	XYL 10.29	74.5	74.5	48.0	2.44	109.74	0.00	1.19	0.00
19	CAR 04.14	PEC 47.86	GEL 02.53	GLU 34.16	SUA 11.30	72.3	73.3	46.5	9.65	0.54	2.78	0.02	0.12
20	CMC 23.16	CNF 09.88	ZIN 32.76	XYL 03.36	XYL 03.36	55.0	59.1	26.3	35.38	4.33	1.68	1.04	–
21	MMT 23.08	CMC 41.16	CNF 23.22	SLK 04.90	GLY 07.64	76.3	76.8	50.3	75.62	3.84	4.45	1.89	0.54
22	MMT 17.84	CAR 11.86	CHS 02.44	PUL 37.33	LAC 30.54	63.6	60.8	37.2	6.60	0.39	2.33	0.01	0.94
23	CNF 09.66	CHS 61.31	GEL 13.83	LAC 06.69	SUA 08.52	76.0	78.8	58.7	32.01	4.85	1.43	1.34	0.00
24	MMT 11.06	CHS 38.79	GLU 16.98	SUA 22.80	XYL 10.37	68.0	67.1	43.8	10.06	7.94	0.39	0.61	0.01
25	LAP 18.06	CNF 18.95	ALG 22.06	LAC 18.47	XYL 22.46	59.4	56.2	35.6	13.11	10.07	0.62	1.00	0.43
26	LAP 01.63	CMC 25.72	PUL 26.32	ZIN 26.67	LAC 19.66	65.6	60.9	26.2	20.53	3.77	1.06	0.46	0.40
27	MMT 14.48	CMC 30.38	CNF 23.87	GLY 29.77	FFA 01.50	77.6	76.2	53.7	49.03	13.56	3.10	5.25	0.34
28	MMT 21.44	CMC 40.11	CNF 22.66	AGR 01.50	CAR 14.29	75.7	74.5	49.0	98.06	3.58	5.75	1.92	–
29	CMC 29.96	CNF 37.73	GLU 01.50	GLY 29.11	FFA 01.70	77.2	74.0	52.3	27.52	28.65	1.07	6.21	0.01

30	MMT 12.12	CMC 34.65	CNF 29.03	SLK 08.30	GEL 15.90	74.5	76.1	46.0	92.67	1.45	8.41	0.64	0.01
31	MMT 24.26	CMC 34.83	AGR 32.43	GLU 04.79	LAC 03.69	70.7	69.7	41.4	35.46	1.20	4.67	0.26	–
32	CMC 16.28	PUL 18.27	GLY 19.57	FFA 24.48	LAC 21.40	74.3	71.9	47.8	7.02	23.29	0.09	1.12	0.04
33	MMT 01.50	CNF 05.43	CAR 35.62	FFA 34.55	XYL 22.90	66.6	65.4	34.0	21.25	1.91	2.51	0.24	–
34	CHS 26.12	GEL 37.54	GLU 13.65	GLY 20.30	XYL 02.39	75.4	74.2	50.1	7.98	79.19	0.02	3.02	0.00
35	CMC 39.62	CNF 37.76	GEL 17.10	GLY 01.50	XYL 04.01	83.7	74.9	67.8	75.18	1.73	6.58	0.59	0.03
36	MMT 25.06	CNF 32.19	GEL 28.44	LEV 07.10	PHA 07.21	54.6	52.7	26.0	23.95	1.24	4.15	0.11	–
37	CMC 28.13	AGR 09.86	PEC 11.46	STA 38.54	GEL 12.01	70.0	77.0	50.8	34.51	2.02	2.76	0.33	0.01
38	CMC 30.08	CNF 30.71	ALG 03.17	PUL 19.25	LEV 16.79	79.0	76.6	59.9	60.37	1.75	4.21	0.57	0.01
39	MMT 10.27	CMC 26.35	CNF 35.58	STA 12.19	GLY 15.61	80.4	79.8	60.6	76.44	4.55	3.87	2.36	0.17
40	ALG 43.53	CAR 29.20	PUL 06.13	GLY 05.79	FFA 15.36	79.5	77.1	60.1	51.13	2.24	3.46	0.66	0.03
41	CMC 36.45	CNF 30.02	ALG 16.59	FFA 05.91	XYL 11.03	62.3	58.6	34.3	36.83	19.56	2.12	5.92	0.04
42	MMT 19.22	CAR 31.97	ZIN 06.50	LAC 24.77	SUA 17.53	52.1	52.5	20.7	13.34	3.01	1.28	0.29	0.86
43	MMT 03.20	CNF 37.90	ALG 06.54	CAR 12.88	STA 39.49	80.1	77.3	61.4	52.88	1.23	7.00	0.33	0.05
44	MMT 12.45	CMC 33.17	CNF 23.92	GEL 15.74	GLY 14.72	74.3	75.0	46.1	50.44	7.49	3.80	2.91	0.02
45	MMT 09.88	CMC 41.46	CNF 27.69	GEL 18.83	ZIN 02.14	68.6	67.3	41.2	150.11	6.55	7.16	6.91	–

46	MMT 08.94	CNF 31.97	ZIN 28.55	PHA 01.50	XYL 29.00	2.4	3.1	0.0	9.80	1.32	1.31	0.07	0.59
47	CHS 45.18	PUL 02.84	GEL 13.62	LAC 11.79	XYL 26.57	78.5	78.9	57.6	10.54	52.84	0.04	2.25	0.00
48	AGR 17.43	ALG 26.54	PEC 24.41	PHA 05.57	SRB 26.04	78.8	78.4	59.6	16.07	3.00	1.09	0.25	0.02
49	MMT 14.54	CMC 33.49	CNF 38.65	CAR 06.40	GEL 06.92	74.6	77.4	46.6	99.19	2.23	6.42	1.03	0.03
50	CMC 45.31	CNF 17.39	PUL 04.81	GEL 12.13	ZIN 20.37	50.8	49.0	20.2	35.67	1.25	3.86	0.22	0.02
51	CMC 17.98	CNF 31.61	AGR 12.41	ALG 22.09	GLY 15.91	55.8	45.3	37.2	25.16	3.99	1.67	0.65	0.05
52	LAP 26.26	CNF 12.77	CAR 16.89	GLY 23.00	XYL 21.07	57.1	53.7	29.4	3.78	10.59	0.19	0.28	0.79
53	LAP 10.91	CNF 04.11	CAR 19.80	PUL 32.70	SUA 32.48	39.6	37.9	20.2	0.36	3.56	0.03	0.01	0.63
54	CMC 33.94	PUL 38.63	GLU 10.09	ZIN 09.28	LEV 08.06	70.5	69.2	42.5	15.93	1.06	2.00	0.08	0.02
55	CMC 02.04	PEC 06.33	PUL 39.74	GEL 12.09	SRB 39.80	78.2	76.9	55.1	1.02	22.74	0.03	0.15	0.02
56	LAP 17.24	CMC 01.50	CNF 26.36	GEL 31.72	XYL 23.17	71.6	68.4	50.7	9.68	11.35	0.89	0.91	0.57
57	MMT 24.34	CMC 42.99	CNF 26.55	GLY 03.76	PHA 02.37	80.6	79.9	57.7	138.66	2.96	8.24	2.22	0.74
58	MMT 28.53	CMC 30.29	CNF 08.56	CAR 27.03	LAC 05.59	75.3	73.8	48.1	73.93	2.24	5.84	0.80	–
59	CMC 08.54	CNF 16.87	CAR 39.45	GLY 14.26	XYL 20.88	64.9	62.0	37.4	24.15	15.09	0.87	2.76	0.01
60	CMC 36.97	CNF 25.53	CAR 06.93	PUL 09.43	GLY 21.14	78.2	77.0	57.1	33.81	39.08	1.27	9.84	0.01
61	CMC 22.92	CNF 27.30	AGR 06.90	GEL 41.25	LAC 01.63	64.1	62.1	41.6	40.39	1.41	4.15	0.30	0.04

62	SLK 06.37	AGR 03.94	CAR 33.42	PUL 22.70	XYL 33.57	77.8	78.0	55.2	0.43	11.23	0.01	0.04	–
63	MMT 22.05	CMC 12.02	CAR 20.98	GEL 12.38	GLY 32.56	66.3	66.6	33.7	16.47	3.93	1.52	0.48	0.78
64	LAP 03.66	CMC 32.22	CNF 27.47	GLY 29.24	LEV 07.41	76.5	75.4	55.8	26.86	54.86	0.52	10.99	0.02
65	CMC 24.68	CNF 29.34	CAR 12.39	PUL 14.47	LAC 19.12	75.3	71.0	53.1	55.31	5.18	2.43	1.92	–
66	MMT 31.73	CNF 33.90	SLK 01.50	PUL 06.10	XYL 26.77	57.6	59.8	24.9	34.43	1.68	5.01	0.42	–
67	CMC 36.95	CNF 27.64	AGR 14.67	CAR 10.99	PUL 09.74	68.3	61.8	44.0	52.38	5.02	2.36	1.55	–
68	LAP 09.79	CMC 27.29	CNF 23.00	PUL 07.51	GLY 32.42	78.9	78.5	59.5	36.01	27.55	1.79	7.78	0.21
69	MMT 27.17	CMC 01.50	GEL 26.63	ZIN 26.72	FFA 17.99	51.2	55.7	9.9	18.14	0.81	3.48	0.07	1.00
70	LAP 02.34	CMC 30.94	CNF 30.54	GLY 27.25	FFA 08.93	75.5	73.8	51.2	45.20	29.84	1.92	10.14	0.02
71	ALG 01.50	CAR 27.15	PUL 10.24	GLY 35.24	LEV 25.87	75.9	75.0	53.6	12.41	45.93	0.23	4.12	–
72	CMC 25.25	CNF 29.38	PUL 26.27	LEV 13.71	XYL 05.39	79.0	76.7	59.9	54.85	1.94	3.87	0.56	0.01
73	CNF 10.62	CHS 47.64	GLU 19.81	LEV 01.50	SUA 20.43	72.1	70.0	43.0	31.92	39.01	1.11	9.97	–
74	CAR 22.98	PUL 30.73	GEL 02.21	LEV 36.96	XYL 07.13	–	–	–	11.96	12.00	0.45	1.09	0.09
75	MMT 13.69	CMC 35.85	CNF 31.80	ZIN 05.10	GLY 13.56	63.1	61.1	31.8	73.20	1.97	5.59	0.85	0.02
76	MMT 41.45	CAR 12.33	ZIN 38.46	LEV 02.94	XYL 04.81	9.6	41.0	5.4	3.24	1.33	2.12	0.02	–
77	ALG 07.13	PEC 32.66	STA 23.07	GLU 15.85	FFA 21.30	76.8	76.6	49.7	19.11	1.03	3.22	0.07	0.01

78	CHS 42.07	GLU 16.80	ZIN 18.90	SUA 11.97	XYL 10.26	67.4	66.1	31.3	23.98	9.54	1.13	2.17	–
79	CMC 05.75	CNF 34.31	GLU 01.50	FFA 24.55	LAC 33.89	44.9	40.3	21.2	7.22	2.45	0.77	0.13	–
80	AGR 03.65	CHS 58.81	GEL 11.74	LAC 05.01	XYL 20.79	90	85.0	56.4	39.86	106.34	0.05	22.96	0.00
81	LAP 26.87	CAR 29.70	PUL 20.16	GLY 21.77	LEV 01.50	65.3	54.3	42.8	19.54	6.64	0.98	0.95	0.84
82	CMC 28.73	CNF 32.44	PUL 07.51	GEL 19.36	LEV 11.96	75.2	72.6	49.5	31.07	7.83	2.32	2.01	0.02
83	CMC 13.51	ALG 06.46	PEC 36.19	GLU 06.83	GLY 37.02	61.2	67.7	35.7	5.11	33.63	0.07	1.11	0.04
84	CMC 15.88	CNF 22.49	ALG 34.05	SUA 12.04	XYL 15.53	64.1	57.8	38.0	60.50	3.03	3.30	1.01	0.17
85	MMT 19.34	CMC 42.96	CNF 28.07	GLY 08.13	FFA 01.50	79.6	79.2	57.3	117.86	5.29	6.51	4.41	0.55
86	MMT 06.27	CMC 30.26	CNF 34.78	GEL 14.21	GLU 14.47	71.9	68.5	46.9	14.64	1.33	1.87	0.08	0.02
87	MMT 07.96	CMC 38.50	CNF 27.77	GEL 12.31	FFA 13.46	75.8	76.9	50.2	64.79	3.14	6.38	1.54	0.05
88	CMC 26.74	CAR 23.34	PUL 17.10	LAC 10.90	SUA 21.91	66.7	66.4	41.6	28.65	2.69	1.67	0.44	0.25
89	CMC 37.33	CNF 17.69	SLK 03.43	GLY 32.25	LEV 09.30	76.0	73.3	53.4	19.94	45.17	0.42	5.94	0.02
90	LAP 03.34	CMC 58.92	CNF 34.74	CAR 01.50	ZIN 01.50	70.5	68.1	44.2	74.12	1.60	6.42	0.53	0.03
91	MMT 16.23	CNF 25.86	CAR 22.02	GEL 11.99	SUA 23.90	48.0	47.1	20.2	54.71	1.17	6.59	0.33	0.86
92	CNF 01.50	CAR 10.26	PUL 72.87	ZIN 13.87	PHA 01.50	62.0	57.2	30.3	11.90	1.55	1.52	0.06	–
93	MMT 07.31	CMC 33.93	CNF 38.46	PUL 08.83	GEL 11.47	77.1	77.8	53.8	96.89	2.64	5.55	1.28	0.13

94	AGR 46.03	GEL 39.99	FFA 03.49	LEV 08.99	XYL 01.50	41.5	40.8	19.0	25.66	2.78	1.30	0.37	–
95	MMT 16.51	CMC 37.86	CNF 33.34	AGR 01.50	GEL 10.79	74.7	78.2	49.6	105.56	3.60	7.29	2.47	0.15
96	MMT 07.33	CMC 19.90	CNF 35.65	GEL 20.67	XYL 16.46	75.9	73.4	50.7	38.90	1.41	4.23	0.34	0.08
97	MMT 13.38	CNF 22.09	ALG 17.06	PUL 22.44	LEV 25.03	70.1	69.6	42.8	62.65	4.19	4.12	1.65	–
98	CNF 12.55	CHS 39.85	GEL 20.71	SRB 07.46	XYL 19.43	79.1	78.7	55.0	6.60	32.49	0.11	1.40	0.03
99	ALG 32.92	GLY 10.37	FFA 12.83	SRB 41.25	XYL 02.63	80.6	79.1	62.6	1.07	44.98	0.00	0.27	0.03
100	MMT 25.65	CMC 42.54	CNF 18.54	PEC 07.20	GLY 06.07	80.9	81.2	59.5	86.39	1.95	6.90	1.09	0.45
101	MMT 12.60	CMC 28.49	CNF 38.69	GEL 08.16	FFA 12.06	76.7	78.8	50.2	139.38	3.17	7.76	2.65	0.03
102	CMC 30.18	CNF 34.93	ALG 03.49	GLY 26.87	PHA 04.53	76.1	75.1	55.0	37.83	23.21	2.32	6.91	0.00
103	CMC 28.83	GEL 25.79	ZIN 03.68	GLY 05.14	FFA 36.57	77.7	77.4	50.6	27.17	1.82	1.92	0.27	–
104	LAP 01.84	PUL 02.87	GEL 85.42	SUA 02.53	SUA 02.53	70.7	69.1	48.8	9.55	1.20	1.81	0.05	–
105	LAP 11.29	MMT 10.38	CMC 30.50	CNF 38.24	GEL 09.59	76.8	78.2	55.2	29.89	1.28	4.44	0.13	0.57
106	CMC 38.51	CNF 28.97	PUL 13.20	GLU 01.50	SUA 17.81	54.8	50.3	33.2	26.39	1.14	3.01	0.17	0.10
107	CMC 02.44	CNF 06.61	CAR 38.97	SUA 14.14	SUA 14.14	76.6	77.4	43.6	64.25	4.42	2.54	1.29	–
108	CMC 30.71	CNF 30.34	CAR 02.28	ZIN 03.43	GLY 33.24	67.3	67.7	38.8	26.67	88.37	0.34	15.90	0.01
109	MMT 26.64	ALG 35.56	PUL 02.13	PHA 14.10	XYL 21.57	67.1	67.8	44.5	30.62	1.32	3.43	0.21	0.62

110	MMT 31.84	CNF 19.50	PUL 11.20	ZIN 18.95	LAC 18.51	49.0	48.4	11.7	15.68	0.59	5.05	0.04	0.98
111	LAP 06.64	CHS 58.10	GEL 03.17	LEV 04.87	XYL 27.21	73.8	75.1	48.6	30.68	4.91	1.49	1.11	0.23
112	LAP 09.83	MMT 19.20	CMC 37.74	CNF 25.03	GEL 08.19	78.1	79.3	55.5	70.98	2.69	5.43	1.14	0.53
113	MMT 50.04	CMC 20.79	CAR 17.49	PUL 05.81	SUA 05.87	70.5	74.6	45.9	5.38	0.39	4.01	0.00	0.64
114	CMC 20.39	AGR 01.50	PUL 45.20	LAC 03.51	XYL 29.40	72.5	68.7	52.8	15.63	2.67	1.54	0.22	–
115	CNF 03.19	CHS 68.70	GEL 17.07	LAC 03.43	LEV 07.61	75.5	71.0	49.9	69.41	24.33	2.94	14.84	–
116	CMC 26.40	CNF 49.57	ZIN 10.03	FFA 01.57	XYL 12.43	49.7	54.5	19.6	37.20	1.95	2.70	0.34	0.02
117	LAP 02.67	CMC 39.64	GLU 14.50	LEV 04.59	SRB 38.60	78.0	78.7	100.0	3.52	37.70	0.01	0.70	0.03
118	CMC 01.50	CHS 28.51	GEL 40.27	GLY 06.89	XYL 22.84	80.5	80.3	55.9	1.07	150.07	0.00	0.47	0.00
119	CMC 28.50	CNF 29.95	SLK 04.29	ALG 03.44	GLY 33.83	75.1	74.2	52.8	27.41	35.66	0.92	7.23	0.00
120	LAP 15.82	MMT 23.21	CAR 24.57	GLY 23.10	XYL 13.30	66.2	65.3	36.6	13.45	2.07	1.36	0.20	0.70
121	CMC 30.20	CNF 28.99	PUL 05.74	GLY 26.17	XYL 08.90	79.1	78.8	59.4	35.31	57.26	0.68	13.90	0.00
122	MMT 02.69	ALG 23.80	CAR 08.58	PUL 21.26	GLY 43.67	75.2	73.5	54.1	7.53	35.67	0.07	1.70	0.07
123	CNF 25.02	CAR 08.94	GEL 30.92	GLY 12.13	FFA 23.00	63.4	59.2	33.9	27.37	1.01	5.72	0.17	–
124	MMT 13.96	CMC 30.94	CNF 30.59	AGR 12.73	LAC 11.79	68.0	65.6	43.4	51.93	3.03	3.06	0.74	–
125	MMT 09.95	CMC 30.69	CNF 35.82	STA 07.73	XYL 15.80	80.2	78.9	60.8	80.31	2.35	6.25	1.46	0.25

126	CMC 29.60	CNF 32.07	GEL 09.80	ZIN 10.78	XYL 17.76	59.8	58.3	31.4	59.89	1.39	5.40	0.40	0.03
127	CMC 25.75	CAR 21.82	GLY 23.90	PHA 01.50	XYL 27.03	74.2	72.0	50.9	11.73	30.93	0.16	2.37	0.40
128	MMT 17.00	CMC 26.55	CNF 35.13	GEL 06.86	FFA 14.46	77.4	77.3	48.9	100.47	2.38	7.17	1.02	0.27
129	MMT 02.52	CHS 66.92	PEC 04.30	GEL 18.21	LAC 08.04	79.0	77.9	53.2	35.00	4.84	1.86	1.22	0.00
130	MMT 26.54	CMC 37.49	CNF 18.40	ZIN 13.04	GLY 04.53	39.2	39.3	12.5	53.00	6.65	3.90	2.67	0.64
131	MMT 20.96	CMC 23.05	CNF 20.11	CAR 18.45	LEV 17.43	69.7	67.4	46.2	54.79	2.21	4.74	0.65	–
132	CMC 21.45	ALG 24.07	GLU 03.30	SUA 27.26	SUA 27.26	27.3	39.4	9.9	9.61	25.53	0.29	1.81	–
133	LAP 05.26	CMC 28.36	CNF 38.37	GLY 11.96	FFA 16.06	78.6	77.6	61.3	59.10	5.80	3.90	2.33	0.04
134	MMT 14.36	PEC 36.77	STA 04.19	FFA 05.29	LAC 39.39	80.5	74.0	52.8	27.03	2.67	2.40	0.46	0.87
135	CMC 01.50	CNF 34.86	GLU 03.42	SUA 19.22	SUA 19.22	48.0	46.3	17.7	22.70	5.13	1.34	0.75	–
136	CMC 45.18	CNF 25.17	PUL 02.77	GEL 19.65	LEV 07.23	76.5	75.3	54.9	36.99	1.64	3.08	0.26	0.02
137	MMT 24.16	CMC 24.35	CNF 16.21	SLK 08.40	GEL 26.87	58.6	67.1	31.1	13.13	0.28	6.04	0.02	0.74
138	CHS 60.81	GEL 14.13	LEV 11.22	SRB 09.33	XYL 04.51	79.5	79.3	59.3	22.14	15.21	0.92	2.81	0.01
139	MMT 13.13	CMC 32.75	CNF 24.67	PUL 05.71	GEL 23.73	73.7	76.6	44.1	118.74	2.42	7.21	1.57	0.05
140	CMC 30.39	CNF 42.73	PUL 11.74	GEL 11.49	PHA 03.64	78.2	76.5	57.1	31.55	1.14	5.51	0.10	0.01
141	MMT 29.09	CMC 32.17	SLK 01.50	CAR 13.51	GEL 23.73	68.1	71.4	36.1	50.01	0.87	8.33	0.17	1.00

142	CMC 17.87	CNF 34.90	CAR 11.69	GLY 32.25	XYL 03.30	78.0	76.6	59.7	18.66	12.18	1.36	1.59	0.00
143	CMC 23.99	CNF 40.10	CAR 01.87	GEL 16.82	SUA 17.22	73.7	71.6	57.2	22.59	1.08	2.98	0.13	0.04
144	CAR 02.64	PUL 38.03	GEL 26.34	GLU 31.49	PHA 01.50	69.8	67.9	55.1	15.44	1.95	1.42	0.10	–
145	MMT 06.56	CMC 37.25	CNF 34.03	GEL 15.04	GLY 07.11	76.1	76.5	50.3	103.90	2.83	5.62	1.40	0.07
146	MMT 12.49	CMC 30.87	CNF 39.70	GEL 11.72	LAC 05.21	75.4	75.9	49.3	136.67	2.55	8.69	2.10	0.08
147	MMT 12.95	CMC 30.97	CNF 29.24	PUL 06.43	GEL 20.41	73.7	75.4	47.3	120.82	4.10	5.94	3.37	0.28
148	CMC 44.36	CNF 32.62	PUL 07.14	GEL 14.36	FFA 01.51	80.4	79.7	58.7	77.22	1.99	5.57	0.68	0.02
149	CNF 31.70	CAR 22.13	PUL 19.85	GEL 05.35	GLY 20.97	43.3	55.9	31.7	50.14	4.04	3.11	1.35	–
150	MMT 45.77	CMC 22.86	CNF 15.45	AGR 06.63	GEL 09.29	78.0	81.9	51.0	27.16	0.94	7.17	0.09	0.92
151	MMT 05.97	CMC 51.73	CNF 27.09	AGR 13.71	LAC 01.50	59.2	56.1	35.9	79.29	3.05	4.15	1.50	0.02
152	MMT 05.47	CMC 31.93	PUL 32.51	ZIN 08.75	SUA 21.34	69.4	67.9	44.0	36.36	3.00	1.73	0.59	0.42
153	MMT 41.81	SLK 07.63	AGR 12.06	CAR 23.63	GLY 14.87	47.3	51.4	16.7	41.26	2.55	2.44	0.61	1.00
154	CMC 42.95	CNF 19.98	GEL 12.24	ZIN 05.97	FFA 18.87	64.5	62.5	31.7	61.52	1.75	4.75	0.59	0.02
155	MMT 18.66	CMC 44.03	CNF 12.59	GEL 14.02	ZIN 10.70	49.3	49.3	21.3	58.85	2.06	4.21	0.54	0.41
156	CMC 50.33	ALG 02.00	CAR 01.50	LAC 44.67	LEV 01.50	79.4	80.4	64.8	9.31	3.93	0.47	0.23	–
157	CMC 32.37	CNF 32.42	ALG 04.34	GLU 01.50	GLY 29.37	75.1	74.5	56.2	22.30	40.62	0.77	6.42	0.01

158	MMT 27.07	CAR 13.84	CHS 02.71	PUL 27.34	GLY 29.03	64.0	55.7	29.5	15.86	3.04	1.77	0.33	0.96
159	CMC 37.90	CNF 35.42	PUL 07.40	GEL 07.29	FFA 11.99	81.0	78.3	64.6	81.62	2.31	6.53	0.93	0.02
160	LAP 10.67	CNF 30.77	PUL 22.31	ZIN 08.35	LAC 27.90	44.3	41.7	18.6	21.07	1.08	4.46	0.07	0.52
161	CMC 32.66	CNF 33.01	AGR 01.50	CAR 06.39	GLY 26.44	77.3	77.7	57.1	42.41	28.41	1.89	9.40	0.02
162	CMC 02.63	PEC 36.67	PUL 41.01	SRB 04.81	SUA 14.87	77.6	78.7	58.4	29.84	0.64	5.36	0.11	0.06
163	CHS 48.49	GEL 17.00	FFA 06.81	LAC 08.59	XYL 19.11	79.2	79.1	57.3	19.64	18.25	0.60	2.65	0.01
164	MMT 30.91	CMC 35.13	CNF 28.10	AGR 02.45	GEL 03.41	77.0	76.0	52.3	61.08	1.71	5.53	0.47	0.68
165	MMT 30.12	CNF 33.00	SLK 14.37	GLY 13.96	LEV 08.54	72.4	72.3	42.0	79.40	1.86	7.16	0.73	0.82
166	MMT 20.19	CMC 27.43	CNF 33.80	CAR 01.71	XYL 16.87	79.5	79.0	57.9	49.70	2.12	6.02	0.64	0.59
167	MMT 56.58	SLK 02.51	CAR 22.05	FFA 02.90	LEV 15.95	60.3	65.5	32.3	61.60	0.95	11.12	0.20	0.90
168	CNF 32.49	PUL 28.03	GEL 08.98	GLU 01.50	FFA 29.00	48.9	44.3	20.8	17.68	0.70	4.00	0.05	0.07
169	MMT 14.40	CMC 28.34	CNF 46.17	AGR 03.47	GEL 07.62	76.0	77.1	51.4	59.35	2.28	5.34	0.68	0.24
170	CMC 22.12	CNF 11.95	ALG 24.53	PUL 22.88	SUA 18.51	68.2	63.3	45.8	29.46	1.25	3.54	0.19	0.09
171	MMT 18.53	CMC 26.90	CNF 23.06	CHS 12.28	GEL 19.23	74.6	76.0	48.7	76.41	3.57	6.04	1.78	0.32
172	MMT 13.99	CMC 21.62	CNF 40.15	STA 10.38	FFA 13.86	78.4	77.1	56.4	16.92	1.49	3.50	0.05	0.07
173	MMT 12.14	CMC 28.50	CNF 43.75	ALG 01.90	SUA 13.71	53.2	49.7	27.3	91.83	2.07	6.40	1.04	0.23

174	MMT 09.80	CMC 37.69	CNF 28.89	GEL 22.12	GLY 01.50	61.3	58.9	33.3	114.68	4.00	6.03	2.79	0.68
175	CMC 32.00	CNF 09.67	CAR 13.87	GEL 27.76	FFA 16.70	74.1	70.6	51.9	5.87	0.27	3.78	0.01	0.01
176	CMC 37.36	CNF 32.59	PUL 02.41	ZIN 13.10	GLY 14.53	53.5	51.4	25.0	77.02	4.23	3.53	2.04	0.02
177	CNF 03.27	CAR 40.02	CHS 15.91	GEL 39.08	XYL 01.71	45.8	45.8	21.8	5.61	1.05	1.02	0.02	–
178	CMC 26.16	CAR 05.46	PUL 14.87	LEV 24.47	XYL 29.04	72.0	69.8	52.5	9.54	14.71	0.20	1.00	0.17
179	CMC 24.99	CNF 20.77	ALG 34.24	GLY 07.81	PHA 12.19	63.7	62.2	42.2	27.28	1.45	2.82	0.18	0.50
180	MMT 15.14	CMC 28.98	CNF 39.62	GEL 02.22	FFA 14.04	78.3	79.1	58.9	120.54	2.63	7.61	1.51	0.28
181	CMC 36.39	CNF 19.09	CAR 18.83	ZIN 11.64	GLY 14.04	45.1	49.7	27.6	34.92	12.63	1.59	3.06	0.00
182	CMC 28.69	CNF 35.79	CAR 13.94	PUL 18.53	SUA 03.06	74.5	72.9	52.3	98.33	2.81	5.95	1.74	–
183	LAP 02.54	MMT 02.74	CAR 23.55	GLY 07.34	LAC 63.82	79.6	81.6	57.2	3.79	5.44	0.20	0.13	–
184	CMC 44.91	ALG 17.16	GLY 07.64	FFA 10.31	LAC 19.97	71.9	69.7	49.9	21.33	4.45	1.14	0.50	0.02
185	MMT 03.44	CMC 29.33	CNF 31.04	GLY 33.54	FFA 02.64	76.3	75.3	54.5	29.80	44.35	1.09	9.90	0.02
186	MMT 16.34	CNF 16.17	ALG 29.72	FFA 21.26	LEV 16.51	54.1	58.6	14.6	31.65	3.15	3.67	0.64	0.67
187	MMT 40.48	CAR 35.86	ZIN 01.50	FFA 01.50	XYL 20.66	62.9	62.4	25.6	24.42	4.33	2.46	0.83	0.79
188	MMT 57.39	CMC 17.05	SLK 03.54	CAR 10.75	FFA 11.27	69.7	80.3	33.6	56.14	0.75	10.15	0.22	0.95
189	MMT 46.40	CMC 20.85	CNF 10.99	SLK 07.01	GLY 14.75	71.2	70.0	41.5	101.23	1.42	9.72	0.61	0.90

190	MMT 10.63	CMC 39.99	CNF 34.61	STA 02.90	GEL 11.88	75.4	77.3	50.9	110.64	3.65	5.25	2.40	0.14
191	CMC 14.56	CAR 10.80	PEC 43.13	GLY 07.23	XYL 24.29	72.0	72.1	45.0	22.51	11.33	0.78	1.77	0.00
192	CMC 31.42	CNF 32.57	AGR 03.25	GEL 02.33	GLY 30.43	76.9	75.9	52.6	31.36	35.45	1.55	8.94	0.01
193	MMT 11.55	CMC 25.08	CNF 36.70	STA 23.89	LEV 02.79	82.0	81.3	64.1	98.47	2.51	7.53	1.02	0.25
194	CNF 24.59	ALG 03.80	PUL 46.69	GEL 23.42	ZIN 01.50	65.0	62.8	39.1	32.80	1.25	3.84	0.21	–
195	CHS 60.56	GEL 22.44	ZIN 06.04	FFA 03.76	SUA 07.20	77.9	78.9	47.4	44.31	20.08	1.79	7.91	0.00
196	LAP 04.71	CMC 28.23	ALG 32.94	GLY 32.34	XYL 01.77	76.2	79.3	59.9	10.70	14.61	0.27	1.29	–
197	CNF 31.25	CAR 21.62	GEL 17.86	GLU 10.52	LAC 18.74	48.5	42.9	29.7	7.56	0.48	2.11	0.02	0.07
198	LAP 06.42	SLK 03.83	CHS 65.71	GEL 06.29	LAC 17.76	78.2	78.9	57.9	34.50	4.72	1.69	1.39	0.19
199	MMT 11.89	PUL 24.96	GLY 04.94	LAC 28.90	PHA 29.30	80.4	81.3	60.2	1.31	1.70	0.14	0.03	–
200	MMT 12.49	CMC 25.01	CNF 36.70	ALG 14.27	FFA 11.53	79.0	79.1	60.1	160.88	1.27	7.99	0.48	0.06
201	LAP 02.80	MMT 14.99	CMC 43.80	CNF 24.66	FFA 13.76	57.5	52.8	28.4	64.83	1.40	6.83	0.35	0.27
202	MMT 03.80	CMC 13.74	CAR 14.11	GLY 37.35	FFA 31.00	77.8	76.5	54.8	2.83	43.50	0.03	0.92	–
203	ALG 30.37	GEL 49.74	GLY 11.29	PHA 04.20	PHA 04.20	67.0	65.9	45.5	10.69	23.60	0.23	1.91	–
204	MMT 23.42	CAR 19.97	GEL 18.48	FFA 28.57	SUA 09.56	64.5	65.8	28.2	26.09	0.58	8.53	0.05	0.78
205	CMC 33.73	CNF 24.94	AGR 01.50	PUL 21.39	LEV 18.44	78.2	77.1	56.7	35.18	1.54	2.95	0.27	0.01

206	CNF 02.22	CHS 70.84	GEL 16.73	GLU 05.70	LEV 04.50	78.8	78.9	51.3	84.01	3.28	4.70	1.32	0.00
207	MMT 19.97	CMC 27.67	CNF 15.66	GEL 22.67	LEV 14.03	73.9	74.2	45.5	41.68	1.77	4.28	0.29	0.55
208	CMC 30.59	CNF 26.28	PUL 11.60	GLY 28.24	PHA 03.29	78.0	76.2	60.2	12.47	71.38	0.17	5.98	0.01
209	CMC 28.57	CNF 33.73	CAR 01.99	GLY 28.37	PHA 07.34	75.4	73.1	54.1	30.38	22.81	1.27	5.60	0.01
210	SLK 20.72	AGR 23.90	PUL 21.75	ZIN 08.34	GLY 25.29	56.1	55.7	26.8	2.59	10.99	0.15	0.23	–
211	MMT 23.00	CMC 46.83	CNF 23.61	PUL 03.50	LEV 03.06	77.6	80.9	57.0	106.32	3.08	5.73	1.93	0.28
212	MMT 33.31	SLK 08.21	PUL 03.41	STA 45.28	PHA 09.79	73.0	68.6	49.9	4.07	0.14	3.50	0.00	0.79
213	CMC 01.50	CHS 69.73	GEL 10.72	GLY 10.27	SUA 07.77	79.7	79.3	59.3	72.46	5.21	2.84	2.45	0.00
214	CHS 42.60	GLU 06.79	LEV 02.80	SUA 12.66	XYL 35.16	78.1	77.4	50.5	2.94	75.60	0.01	1.01	0.00
215	CMC 29.91	GEL 22.58	ZIN 21.41	FFA 09.69	SUA 16.41	65.5	65.1	34.0	17.40	0.81	3.05	0.06	0.02
216	CMC 23.65	CAR 20.29	PUL 29.92	GLY 16.13	PHA 10.01	74.5	70.1	54.1	32.46	1.97	2.33	0.36	–
217	MMT 02.25	ALG 01.50	CHS 37.28	GEL 25.48	GLY 33.49	80.5	81.0	59.9	18.86	126.90	0.02	11.02	–
218	LAP 31.09	CAR 34.01	GEL 01.50	ZIN 01.95	FFA 31.44	78.0	79.6	47.2	4.19	0.73	1.41	0.01	–
219	CMC 33.90	CNF 18.30	SLK 02.46	AGR 24.71	PUL 20.63	60.2	54.8	35.8	37.09	2.33	2.27	0.46	0.12
220	MMT 06.56	CMC 29.44	CNF 41.09	PUL 10.40	GEL 12.51	75.3	77.9	49.1	138.34	2.87	7.60	2.37	0.01
221	ALG 35.86	GEL 15.56	GLY 23.77	FFA 04.33	LEV 20.48	73.9	73.6	38.1	7.01	9.41	0.24	0.47	0.04

222	MMT 38.24	SLK 01.50	CAR 01.50	PUL 27.36	FFA 31.40	66.5	71.5	29.6	49.26	1.46	6.58	0.48	–
223	CMC 01.50	CNF 31.78	CAR 36.10	GLU 01.50	XYL 29.11	37.9	50.5	30.0	38.36	2.41	2.81	0.52	–
224	AGR 02.65	CHS 64.03	STA 04.04	GEL 21.21	LEV 08.07	79.9	80.5	56.3	53.06	5.54	2.71	2.15	0.01
225	LAP 05.74	MMT 18.07	CAR 20.70	PHA 26.49	XYL 29.00	70.5	67.9	46.2	5.33	2.45	0.77	0.10	0.69
226	MMT 18.94	CMC 22.96	GLY 05.66	FFA 30.57	SUA 21.87	61.0	62.8	35.6	23.11	1.53	2.99	0.20	–
227	CNF 02.43	CHS 02.92	GEL 37.59	ZIN 41.66	LAC 15.40	51.4	52.2	24.5	9.25	1.31	1.32	0.06	–
228	MMT 22.54	CMC 09.65	CNF 26.11	SLK 21.59	PUL 20.11	66.9	64.9	39.3	37.53	0.64	8.45	0.09	0.67
229	CNF 30.06	CAR 06.07	PUL 21.90	SUA 24.60	XYL 17.37	56.1	51.8	33.5	20.95	1.63	2.42	0.23	–
230	CMC 28.83	CNF 24.11	CAR 11.23	GLY 25.73	FFA 10.10	77.5	76.0	55.1	52.33	32.15	2.33	13.12	0.00
231	CMC 22.07	CNF 27.08	PUL 19.76	GEL 21.52	LAC 09.57	74.5	69.9	49.8	38.86	2.44	3.03	0.69	0.03
232	MMT 58.07	CMC 12.73	CAR 15.64	SUA 07.93	XYL 05.63	64.0	75.3	28.6	32.60	1.25	4.02	0.23	1.00
233	MMT 10.36	CMC 34.48	CNF 26.84	GEL 18.29	LEV 10.03	74.2	73.0	49.5	43.92	5.37	2.48	1.52	0.27
234	CNF 32.98	SLK 08.44	CAR 11.87	GEL 07.92	SRB 38.78	73.0	64.2	48.4	28.00	11.62	1.47	2.53	0.01
235	MMT 26.36	CMC 35.39	CNF 23.07	GLY 07.11	PHA 08.07	77.2	77.6	55.6	50.88	2.51	3.55	0.82	0.56
236	MMT 32.82	CMC 05.64	SLK 24.82	AGR 25.92	XYL 10.80	56.1	58.3	26.5	40.74	1.10	5.24	0.22	1.00
237	MMT 22.77	CMC 26.51	CNF 24.48	SLK 16.00	CAR 10.23	66.1	68.9	46.4	61.18	1.47	5.99	0.37	0.61

238	MMT 60.16	SLK 07.06	CAR 11.41	PHA 09.33	XYL 12.04	72.6	76.6	40.0	12.92	0.48	3.44	0.03	1.00
239	MMT 23.45	CAR 33.06	PUL 31.50	GLU 01.50	LAC 10.49	70.4	71.7	41.9	33.37	1.65	4.13	0.29	0.97
240	CMC 36.24	CNF 03.53	STA 16.00	SRB 37.11	XYL 07.11	89.2	83.5	70.5	5.93	16.69	0.08	0.50	0.01
241	ALG 18.30	PUL 11.70	STA 02.99	LAC 28.01	SRB 39.00	85.8	85.4	75.6	1.49	32.56	0.01	0.25	0.00
242	CMC 30.13	CNF 29.97	ALG 12.40	ZIN 11.90	LAC 15.60	64.5	59.6	35.0	63.82	3.92	3.93	1.46	–
243	CMC 25.69	CNF 23.12	PUL 21.00	LAC 14.57	LEV 15.62	76.9	74.7	60.6	13.73	1.09	1.56	0.07	0.01
244	ALG 01.50	CAR 24.36	GLU 14.31	GLY 34.13	LAC 25.70	68.3	68.5	46.0	4.77	20.51	0.11	0.71	–
245	MMT 10.01	CMC 28.83	CNF 28.99	GEL 14.56	XYL 17.61	70.5	74.1	42.9	52.02	2.77	4.45	1.08	0.03
246	MMT 02.84	CMC 30.09	CNF 27.13	PUL 26.41	LEV 13.53	53.5	77.6	62.5	57.62	1.43	4.88	0.42	0.01
247	CMC 29.62	ZIN 28.62	GLY 29.95	LAC 10.23	PHA 01.57	51.0	61.4	13.7	7.33	23.24	0.09	1.04	–
248	CMC 25.46	CNF 30.26	CAR 33.32	SUA 02.20	XYL 08.76	59.9	49.6	26.7	64.20	2.05	4.43	0.65	0.06
249	CMC 28.59	CNF 45.82	PUL 05.19	GEL 15.43	GLY 04.97	74.1	73.2	54.4	90.78	4.47	4.76	2.53	–
250	CMC 50.21	PUL 43.81	GLU 02.97	GLY 01.50	XYL 01.50	79.6	80.5	63.0	40.35	2.63	2.34	0.71	–
251	CMC 38.51	ALG 13.29	STA 41.58	GLU 02.79	FFA 03.84	76.4	76.4	58.3	38.46	2.92	2.40	0.53	0.05
252	MMT 06.26	CMC 44.60	CNF 36.54	GEL 09.07	GLY 03.53	78.8	78.3	56.4	86.04	2.37	6.27	0.91	0.11
253	CMC 49.03	CNF 23.26	GLY 14.56	LEV 02.90	XYL 10.25	74.7	70.0	52.9	68.77	3.89	3.40	1.63	0.01

254	LAP 01.50	CMC 32.86	CNF 34.71	GLY 27.27	LAC 03.66	77.7	76.1	57.5	46.49	21.38	2.24	7.86	0.02
255	MMT 14.49	CMC 30.61	ALG 14.71	CAR 29.60	GEL 10.59	67.5	69.7	39.8	61.69	3.50	3.80	1.59	0.19
256	CMC 31.44	CNF 23.30	AGR 10.34	GLY 25.34	LAC 09.57	69.6	68.1	47.8	13.73	9.87	0.47	0.95	0.02
257	SLK 13.57	CHS 45.69	STA 09.66	GEL 16.97	XYL 14.11	73.7	77.2	57.9	24.20	10.79	1.15	2.42	0.01
258	MMT 13.19	CMC 33.43	CNF 29.66	LEV 19.34	XYL 04.39	55.9	51.3	25.1	63.84	3.45	3.16	1.35	0.65
259	MMT 03.51	CMC 31.51	CNF 29.64	PUL 14.33	GEL 21.01	77.8	79.8	44.7	99.39	2.08	7.17	1.12	0.57
260	LAP 06.80	CHS 66.41	GEL 14.28	LEV 02.19	SUA 10.33	79.2	79.6	58.4	31.95	5.40	1.29	1.76	0.19
261	ALG 46.08	GEL 11.07	GLY 16.54	SUA 08.43	XYL 17.88	72.8	68.9	51.0	9.04	26.31	0.12	1.53	0.23
262	MMT 10.12	CMC 36.32	CNF 25.94	STA 09.28	GEL 18.34	75.3	77.5	51.0	66.08	1.59	6.44	0.47	0.18
263	MMT 28.85	ALG 15.75	CAR 05.02	GLY 23.49	XYL 26.89	68.5	67.0	37.5	2.91	23.13	0.08	0.52	0.86
264	CMC 04.37	CAR 23.65	PUL 05.46	STA 28.53	SRB 37.99	72.8	73.0	46.6	4.88	11.84	0.18	0.44	0.02
265	CHS 29.13	GEL 38.23	GLY 19.09	LEV 12.06	XYL 01.50	80.3	80.7	60.0	5.69	123.30	0.02	1.89	0.01
266	CAR 22.48	PUL 19.81	FFA 12.81	LAC 28.68	XYL 16.21	73.8	70.3	49.5	9.99	13.46	0.26	0.95	0.03
267	MMT 19.67	CMC 22.36	CAR 19.75	FFA 14.49	LEV 23.73	68.4	70.8	40.7	32.95	1.35	4.34	0.29	—
268	CNF 01.50	CHS 45.32	LAC 05.30	SUA 22.72	XYL 25.16	79.4	79.3	55.5	13.95	96.39	0.02	5.66	0.03
269	CMC 33.94	CNF 24.98	CAR 07.79	GLY 25.63	LAC 07.66	75.0	74.7	53.7	26.01	30.72	0.81	5.58	0.01

270	LAP 02.06	CMC 44.67	CNF 45.26	CAR 01.50	LAC 06.51	72.9	70.2	50.2	11.00	0.93	6.18	0.01	0.04
271	CMC 47.27	CNF 31.66	CAR 08.18	GLY 09.06	SUA 03.83	76.7	73.0	55.3	90.94	16.29	4.11	11.71	–
272	MMT 20.88	CMC 33.82	CNF 22.38	SLK 09.83	GEL 13.10	76.9	75.6	55.4	114.66	2.64	7.06	1.60	0.01
273	CMC 23.07	CNF 29.00	ALG 16.74	PUL 04.67	LEV 26.51	74.6	71.2	48.3	58.08	8.50	2.92	3.79	–
274	CHS 43.78	GEL 09.87	ZIN 09.61	SRB 11.37	XYL 25.37	71.5	67.8	44.4	8.99	56.25	0.03	2.49	0.00
275	MMT 12.62	CMC 25.59	CNF 25.66	GEL 17.65	LEV 18.49	74.1	74.0	45.7	46.52	4.02	2.50	1.12	0.08
276	MMT 09.53	CMC 41.09	CNF 22.81	PUL 12.49	GEL 14.08	73.6	76.1	49.3	74.14	5.64	4.59	3.30	0.11
277	AGR 01.50	CHS 47.30	GEL 12.06	LEV 09.93	SUA 29.21	78.9	79.2	53.5	22.96	11.49	1.03	2.25	0.04
278	LAP 06.67	MMT 37.83	CNF 02.05	FFA 21.17	XYL 32.28	66.0	67.7	23.8	52.20	2.38	4.87	0.85	1.00
279	MMT 38.66	CMC 30.83	CNF 15.76	AGR 07.09	CAR 07.66	62.4	60.0	28.8	61.47	1.53	5.19	0.45	0.83
280	ALG 04.87	PEC 32.48	STA 26.04	GEL 15.06	ZIN 21.55	68.5	73.2	40.5	12.05	0.56	3.10	0.05	–
281	MMT 03.47	CNF 09.82	CHS 52.28	GEL 13.50	XYL 20.93	80.0	79.4	57.6	28.16	48.54	0.14	6.79	0.02
282	CNF 21.76	ALG 39.54	PUL 18.54	ZIN 01.70	PHA 18.46	61.0	56.1	28.2	2.18	0.25	0.98	0.00	0.29
283	CNF 11.23	ALG 24.90	PUL 17.51	GLY 25.49	FFA 20.87	70.3	68.8	36.9	2.51	3.49	0.42	0.08	0.88
284	MMT 59.23	CAR 14.25	ZIN 03.00	LEV 05.33	XYL 18.18	63.1	67.4	28.1	14.40	1.07	2.49	0.07	1.00
285	MMT 33.87	AGR 08.76	ALG 10.16	ZIN 11.56	XYL 35.66	50.3	54.1	19.0	28.19	1.90	2.32	0.28	0.78

286	MMT 06.85	ALG 24.63	CAR 20.01	GLY 26.82	XYL 21.70	75.4	72.8	54.0	8.18	38.58	0.13	2.22	0.48
287	CMC 27.08	CNF 29.64	ALG 09.04	GLY 30.54	LAC 03.70	79.1	77.2	60.8	22.17	60.76	0.62	9.20	0.00
288	CHS 51.26	PUL 09.64	GEL 16.79	FFA 03.91	XYL 18.39	78.1	78.4	51.8	48.51	5.87	2.12	1.79	0.04
289	MMT 30.19	CNF 27.49	CHS 03.31	FFA 23.41	SUA 15.60	20.0	27.0	3.3	26.55	1.01	4.26	0.12	–
290	MMT 36.93	CMC 19.65	CNF 22.29	ALG 07.29	PHA 13.84	60.2	59.4	33.4	12.31	0.50	3.02	0.04	0.86
291	MMT 17.69	CAR 28.21	PUL 02.64	STA 35.94	GLU 15.52	72.1	73.8	41.5	25.92	0.74	4.27	0.10	1.00
292	CNF 35.27	CHS 03.04	PEC 34.86	SRB 13.69	XYL 13.16	75.1	72.3	52.0	28.04	2.00	2.45	0.33	0.04
293	LAP 11.31	SLK 27.40	CAR 25.34	PUL 27.31	LEV 08.63	65.7	70.3	44.5	11.38	0.96	2.57	0.03	–
294	CMC 26.14	CNF 26.16	PUL 25.01	LAC 04.91	LEV 17.77	57.9	52.5	34.2	39.57	22.48	2.06	7.42	0.10
295	CNF 34.69	AGR 05.53	GLY 05.29	SRB 42.91	SUA 11.59	72.4	70.9	50.9	8.60	6.02	0.58	0.38	0.03
296	CMC 24.31	ALG 11.26	CAR 26.01	GLU 15.73	GLY 22.69	63.8	59.6	37.6	15.12	7.85	0.68	0.82	0.09
297	ALG 03.39	PEC 43.51	LEV 04.20	PHA 02.76	SRB 46.15	78.8	78.8	55.4	8.17	4.29	0.40	0.19	0.09
298	CHS 24.38	PUL 36.74	GLU 03.33	LAC 11.87	LEV 23.67	69.0	67.1	44.4	12.81	5.75	0.41	0.55	–
299	CMC 26.32	CNF 27.76	PUL 17.90	GLY 03.16	LEV 24.86	80.4	75.8	61.9	34.01	2.13	2.29	0.36	0.02
300	CHS 26.59	GEL 29.91	GLU 08.17	GLY 26.17	LAC 09.16	76.9	76.9	51.6	1.49	114.86	0.00	0.79	0.00
301	CMC 50.55	CNF 25.28	ALG 01.50	PUL 13.52	GLY 09.14	73.5	70.3	52.6	102.48	3.07	5.28	1.92	0.02

302	MMT 10.79	CMC 39.74	CNF 25.17	GEL 11.74	FFA 12.56	74.7	78.2	42.7	116.18	2.97	7.45	1.76	0.02
303	MMT 06.12	CMC 35.15	CNF 34.66	GEL 22.32	ZIN 01.74	74.0	72.6	20.7	92.31	1.94	6.36	0.83	0.03
304	ALG 01.50	CAR 35.13	GEL 29.14	GLY 31.86	LEV 02.37	67.6	66.5	46.5	15.60	13.49	0.44	1.60	–
305	MMT 23.63	CMC 13.82	GEL 18.50	XYL 21.72	XYL 21.72	65.2	67.4	34.1	28.85	2.27	2.14	0.31	–
306	MMT 13.59	CNF 35.27	CAR 12.00	ZIN 01.50	LAC 37.64	46.6	42.6	19.0	36.76	1.96	3.27	0.38	0.75
307	CNF 05.93	CHS 46.30	GLU 25.74	GLY 06.26	SUA 15.77	71.7	77.4	51.9	38.00	2.39	2.29	0.50	0.01
308	MMT 21.05	CMC 36.41	CNF 25.83	STA 12.63	GLY 04.09	80.2	80.5	60.5	71.60	1.47	8.32	0.63	0.48
309	CNF 08.82	PUL 43.97	STA 41.60	LAC 02.34	SUA 03.27	78.9	77.0	61.2	8.23	0.77	2.08	0.02	0.02
310	MMT 14.33	CMC 39.79	CNF 16.01	GEL 25.90	XYL 03.97	72.8	74.9	45.8	22.86	0.77	4.89	0.08	0.12
311	MMT 11.79	CMC 35.35	CNF 24.25	LEV 10.97	SUA 17.64	72.2	68.7	44.5	30.47	7.75	1.91	1.60	–
312	MMT 03.40	PEC 35.89	FFA 20.43	LEV 37.31	SUA 02.97	81.2	86.3	59.0	11.67	1.52	2.29	0.04	0.01
313	MMT 28.48	CMC 33.79	CNF 17.49	GLY 12.07	LEV 08.17	78.7	78.5	55.1	57.76	2.81	4.57	1.02	0.64
314	MMT 10.50	CMC 30.87	CNF 22.46	GEL 19.71	LEV 16.44	91.0	81.3	65.8	161.67	3.15	8.77	2.80	0.08
315	MMT 20.99	CMC 31.47	CNF 09.30	FFA 23.53	LAC 14.71	66.7	63.2	34.2	5.30	0.37	2.28	0.01	0.55
316	MMT 07.60	CMC 43.75	CNF 28.93	GEL 11.69	FFA 08.03	75.8	77.2	48.8	96.74	1.83	7.47	0.96	0.08
317	MMT 23.13	CMC 42.16	CNF 28.34	GEL 04.86	GLU 01.50	81.3	80.1	58.5	62.16	1.57	6.67	0.40	0.46

318	CMC 31.68	CNF 21.12	ALG 19.05	PUL 23.45	FFA 04.71	64.0	61.3	41.2	69.67	2.54	4.51	0.97	0.02
319	MMT 48.10	CMC 23.73	CNF 11.78	ZIN 10.22	XYL 06.17	38.0	36.8	12.7	58.87	2.98	5.72	1.25	0.83
320	LAP 01.50	MMT 01.50	CNF 27.38	PUL 35.87	ZIN 33.75	36.4	41.1	20.8	18.91	0.77	3.09	0.07	0.30
321	MMT 01.50	PUL 24.51	GLU 03.27	SUA 33.30	SUA 33.30	62.7	59.0	41.1	18.61	3.25	1.72	0.13	–
322	AGR 07.87	CHS 25.71	GEL 37.17	GLY 26.47	PHA 02.79	76.2	75.3	58.1	1.82	48.04	0.01	0.54	0.08
323	CMC 31.52	CNF 25.09	CAR 03.34	GEL 05.00	GLY 35.04	77.4	76.3	56.8	28.52	24.50	1.24	4.87	0.00
324	CMC 36.39	CNF 33.09	GEL 13.11	ZIN 15.60	LAC 01.81	59.2	54.8	29.3	40.58	2.75	3.19	0.69	0.02
325	CHS 51.59	PEC 08.09	GEL 16.19	LEV 04.30	XYL 19.83	80.3	81.0	56.1	15.59	40.26	0.10	3.34	0.00
326	MMT 22.10	CMC 35.62	CNF 09.93	CAR 11.39	GLY 20.97	66.8	63.9	36.5	53.49	1.89	5.31	0.58	–
327	CMC 44.73	CNF 26.60	PUL 01.99	GEL 23.19	LAC 03.50	77.4	76.9	58.6	52.85	1.33	5.65	0.41	0.03
328	MMT 14.41	CMC 27.19	CNF 38.54	PEC 09.81	GEL 10.05	72.8	76.4	36.8	22.19	0.89	5.28	0.06	0.20
329	CHS 79.17	GEL 02.02	ZIN 12.57	GLY 03.64	PHA 02.60	66.7	66.5	38.7	31.18	17.99	1.20	4.88	0.26
330	MMT 10.28	CNF 32.79	ZIN 01.79	LEV 29.39	XYL 25.76	41.3	36.8	23.1	12.65	1.92	1.55	0.15	0.65
331	ALG 43.24	CAR 02.10	GEL 09.50	ZIN 07.66	GLY 37.50	58.3	58.4	25.5	10.11	33.97	0.17	2.28	0.05
332	PEC 41.60	PUL 04.69	FFA 32.24	SUA 02.04	XYL 19.43	75.7	77.6	45.3	11.71	2.52	0.97	0.18	0.05
333	MMT 16.79	CMC 43.20	CNF 27.81	CHS 01.50	GEL 10.70	75.0	76.2	50.5	141.81	2.70	9.21	1.90	0.43

334	MMT 37.22	AGR 09.25	PEC 33.56	STA 16.55	LEV 03.41	78.6	76.2	49.5	32.85	0.55	7.36	0.10	0.93
335	CMC 22.79	CNF 27.87	SLK 09.50	ALG 20.95	XYL 18.88	72.3	70.7	46.2	64.66	2.06	4.76	0.92	0.02
336	MMT 07.91	CHS 44.02	PUL 03.43	FFA 03.97	SUA 40.67	77.1	77.7	50.5	28.10	4.04	1.37	0.70	—
337	MMT 16.79	CMC 43.20	CNF 27.81	CHS 01.50	GEL 10.70	77.2	78.3	52.6	95.96	1.89	6.67	0.99	0.11
338	MMT 23.91	CMC 42.72	CNF 22.42	ZIN 04.49	GLY 06.46	74.4	76.8	46.2	135.07	4.01	6.85	3.41	0.06
339	CMC 28.09	CNF 30.53	PEC 03.56	ZIN 08.40	GLY 29.41	62.8	60.2	33.2	20.76	19.09	0.88	3.02	0.00
340	CNF 08.77	SLK 01.50	CHS 72.94	GEL 13.40	LAC 03.39	77.3	79.5	54.8	79.17	4.75	3.21	2.99	0.00
341	CMC 34.11	CNF 18.33	ALG 08.54	LEV 08.59	XYL 30.43	60.0	57.2	41.1	32.68	4.69	1.63	1.00	0.03
342	AGR 04.72	CAR 31.14	PUL 25.30	GEL 14.22	FFA 24.62	72.3	70.8	43.4	6.56	0.30	2.79	0.01	—
343	CMC 36.48	CNF 24.86	GEL 18.66	FFA 06.99	XYL 13.01	78.1	79.3	62.5	79.80	3.39	4.94	1.62	0.02

Supplementary Table 6. 34 nanocomposite data points designed by a chemist to maximize σ_u and SED.

ID	Composition Labels (wt.%)					Property Labels	
						σ_u (MPa)	SED (MJ m ⁻³)
1	CMC 40.00	CAR 40.00	GEL 10.00	GLY 05.00	SRB 05.00	18.52	0.09
2	LAP 20.00	CNF 25.00	CAR 35.00	GLY 15.00	LEV 05.00	17.44	0.36
3	CNF 38.00	CAR 30.00	GEL 16.00	GLY 12.00	PHA 04.00	18.95	0.29
4	CMC 25.00	ALG 25.00	PUL 15.00	GLY 20.00	FFA 15.00	23.77	0.51
5	CMC 40.00	ALG 40.00	PEC 10.00	GLU 05.00	LEV 05.00	28.78	0.82
6	CMC 43.00	ALG 35.00	PEC 14.00	GLY 06.00	FFA 02.00	30.55	1.18
7	ALG 38.00	STA 14.00	GEL 38.00	FFA 05.00	SUA 05.00	29.98	0.43
8	LAP 15.00	AGR 35.00	PEC 10.00	GEL 25.00	SRB 15.00	11.17	0.07
9	CMC 35.00	CAR 35.00	GEL 20.00	GLY 05.00	SRB 05.00	13.52	0.09
10	ALG 40.00	PUL 10.00	GEL 40.00	GLY 08.00	SUA 02.00	41.85	4.09
11	ALG 38.00	STA 10.00	GEL 38.00	FFA 07.00	SUA 07.00	31.19	0.44
12	CNF 34.00	AGR 20.00	CAR 26.00	STA 16.00	FFA 04.00	47.09	0.41
13	CNF 25.00	CAR 60.00	GEL 07.00	GLY 05.00	PHA 03.00	30.53	0.16

14	ALG 45.00	STA 06.00	GEL 45.00	FFA 02.00	SUA 02.00	30.96	0.19
15	ALG 40.00	PUL 10.00	GEL 40.00	GLY 05.00	SUA 05.00	39.86	0.22
16	ALG 44.00	GEL 44.00	FFA 04.00	LAC 04.00	XYL 04.00	28.18	0.48
17	CNF 35.00	AGR 35.00	PUL 16.00	GLY 07.00	FFA 07.00	47.12	0.32
18	CNF 35.00	AGR 35.00	CAR 15.00	STA 10.00	FFA 05.00	43.84	0.59
19	ALG 44.00	GEL 44.00	FFA 05.00	LAC 05.00	XYL 02.00	35.37	0.76
20	CMC 54.00	ALG 24.00	PEC 14.00	GLY 06.00	FFA 02.00	39.67	0.92
21	CNF 40.00	AGR 40.00	PUL 10.00	GLY 05.00	FFA 05.00	24.80	0.62
22	ALG 40.00	GEL 40.00	FFA 07.00	LAC 07.00	XYL 06.00	32.89	0.24
23	MMT 45.00	CAR 45.00	GEL 06.00	ZIN 02.00	PHA 02.00	22.14	0.07
24	AGR 48.00	CAR 12.00	GLU 14.00	GLY 20.00	SUA 06.00	5.45	0.15
25	MMT 35.00	CAR 35.00	GEL 16.00	ZIN 07.00	PHA 07.00	10.29	0.01
26	CMC 45.00	PEC 20.00	ZIN 10.00	LEV 10.00	XYL 15.00	15.77	0.88
27	CMC 38.00	GEL 28.00	ZIN 14.00	FFA 14.00	SRB 06.00	22.55	0.16
28	CNF 30.00	CHS 10.00	PUL 25.00	GLU 30.00	GLY 05.00	8.00	0.03
29	ALG 35.00	STA 16.00	GEL 35.00	FFA 07.00	SUA 07.00	28.41	0.29

30	CMC 35.00	ALG 35.00	PEC 16.00	GLU 07.00	LEV 07.00	51.47	1.75
31	ALG 40.00	PUL 08.00	GEL 40.00	GLY 07.00	SUA 05.00	43.32	4.17
32	CMC 38.00	ALG 40.00	PEC 14.00	GLY 06.00	FFA 02.00	31.20	1.57
33	ALG 40.00	STA 10.00	GEL 40.00	FFA 05.00	SUA 05.00	53.12	0.62
34	MMT 40.00	CAR 40.00	GEL 10.00	ZIN 05.00	PHA 05.00	8.78	0.01

Supplementary Table 7. Nanocomposite formulations mentioned in this study.

ID	Composition Labels (wt.%)				
#1	MMT 10.50	CMC 30.90	CNF 22.50	GEL 19.70	LEV 16.40
#2	MMT 64.40	CMC 20.10	PUL 3.80	GLU 3.20	GLY 8.50
#3	MMT 67.70	CNF 8.60	GEL 21.00	SRB 1.20	XYL 1.50
#4	CHS 59.00	XYL 20.00	GEL 12.00	LAC 5.00	AGR 4.00
#5	ALG 43.53	CAR 29.20	PUL 6.13	GLY 5.79	FFA 15.40
#6	MMT 17.84	CAR 11.86	CHS 02.44	PUL 37.33	LAC 30.50
#7	LAP 02.80	MMT 14.99	CMC 43.80	CNF 24.66	FFA 13.80
#8	CMC 24.31	ALG 11.26	CAR 26.01	GLU 15.73	GLY 22.70
#9	MMT 05.97	CMC 51.73	CNF 27.09	AGR 13.71	LAC 1.50
#10	MMT 08.94	CNF 31.97	ZIN 28.55	PHA 01.50	XYL 29.00
#11	CMC 25.75	CAR 21.82	GLY 23.90	PHA 01.50	XYL 27.00
#12	MMT 16.23	CNF 25.86	CAR 22.02	GEL 11.99	SUA 23.90
#13	CNF 32.49	PUL 28.03	GEL 08.98	GLU 01.50	FFA 29.00

#14	MMT 31.84	CNF 19.50	PUL 11.20	ZIN 18.95	LAC 18.50
#15	CNF 31.25	CAR 21.62	GEL 17.86	GLU 10.52	LAC 18.70
#16	CMC 17.98	CNF 31.61	AGR 12.41	ALG 22.09	GLY 15.90

Supplementary Table 8. Life cycle inventory for the production of conventional plastics (e.g., LDPE, HDPE and PVC).

Output	Input	Amount	Comment
LDPE (1 kg)	Ethylene production	0.996 kg	
	Propylene production	6.96×10^{-3} kg	
	Nitrogen	1.01×10^{-2} kg	
	Natural gas	5.82×10^{-2} m ³	
	Transportation, pipeline	2.8×10^{-2} tkm	
	Transportation, rail	3.4×10^{-6} tkm	
	Transportation, truck	0.21×10^{-3} tkm	
	Electricity from grid	0.679 kWh	Process energy
	Electricity from cogeneration	0.268 kWh	Process energy
	Extrusion	1.0 kg	
HDPE (1 kg)	Ethylene production	0.983 kg	
	Hydrogen	1.80×10^{-3} kg	
	Nitrogen	1.02×10^{-2} kg	
	Cyclohexane	0.48×10^{-3} kg	
	Titanium (from catalyst)	3.8×10^{-6} kg	
	Chromium (from catalyst)	2.2×10^{-6} kg	
	Silica gel (from catalyst)	0.22×10^{-3} kg	
	Transportation, pipeline	2.17×10^{-2} tkm	
	Transportation, rail	4.51×10^{-3} tkm	
	Transportation, truck	0.35×10^{-4} tkm	
	Electricity from grid	0.309 kWh	
	Electricity from cogeneration	0.082 kWh	
	Natural gas	0.028 m ³	
	Extrusion	1.0 kg	
PVC (1 kg)	Ethylene dichloride/Vinylchloride monomer	0.997 kg	Supplementary Table 9
	Transportation, pipeline	1.1×10^{-2} tkm	
	Transportation, train	0.33 tkm	
	Natural gas	0.063 m ³	
	Extrusion	1.0 kg	

Supplementary Table 9. Life cycle inventory for the production of ethylene dichloride/vinyl chloride monomer (EDC/VCM).

Output	Input	Amount	Comment
EDC/VCM (1 kg)	Ethylene	0.49 kg	
	Oxygen	0.16 kg	
	Nitrogen	0.073 kg	
	Chlorine	0.600 kg	
	Sodium hydroxide	6.5×10^{-3} kg	
	Transportation, pipeline gas product	6×10^{-3} tkm	
	Transportation, pipeline refinery product	1.7×10^{-2} tkm	
	Transportation, rail	6.4×10^{-2} kWh	
	Electricity at grid	5.4×10^{-2} kWh	
	Electricity at cogeneration	0.26 kWh	
	Hydrogen	1.50×10^{-3} kg	Process energy
	Natural gas	0.14 m ³	Process energy

Supplementary Table 10. Life cycle inventory for the production of chitosan-rich films.

Output	Input	Amount	Comment
Chitosan-rich film (1 kg)	Chitosan (CHS)	0.59 kg	Supplementary Table 11–13
	Agarose (AGR)	0.04 kg	Supplementary Table 14
	Gelatin (GEL)	0.12 kg	Supplementary Table 15
	Xylitol (XYL)	0.20 kg	Supplementary Table 16
	Lactic acid (LAC)	0.05 kg	

Supplementary Table 11. Life cycle inventory for the production of chitosan from chitin.

Output	Input	Amount	Comment
Chitosan (1 kg)	Chitin	1.40 kg	Supplementary Table 12
	Sodium hydroxide	5.20 kg	
	Electricity	1.06 kWh	

Supplementary Table 12. Life cycle inventory for the production of chitin from crab shell.

Output	Input	Amount	Comment
Chitin (1 kg)	Crab shell	33.0 kg	Supplementary Table 13
	Hydrochloric acid	8.00 kg	
	Sodium hydroxide	1.30 kg	
	Transport	0.05 km	Crab shell transportation
	Electricity	1.3 kWh	Process energy

Supplementary Table 13. Life cycle inventory for crab shell processing.

Output	Input	Amount	Comment
Crab shell (1 kg)	Crab shell grinding	1 kg	
	Crab shell drying	1 kg	

Supplementary Table 14. Life cycle inventory for the production of agarose.

Output	Input	Amount	Comment
Agarose (1 kg)	Sulfuric acid	0.142 kg	
	Sodium hydroxide	5.66 kg	
	Sodium hypochlorite	0.278 kg	
	Expanded perlite	0.150 kg	
	Algae paste	50.1 kg	Seaweed
	Electricity	3.26 kWh	
	Heat	35.0 kCal	

Supplementary Table 15. Life cycle inventory for the production of gelatin.

Output	Input	Amount	Comment
Gelatin (1 kg)	Fish skin	8.27 g	
	Hydrochloric acid	0.00710 g	
	Sodium hydroxide	0.180 g	
	Activated carbon	1.65 g	
	Cationic resin	4.04 g	
	Water	1.06 g	
	Acetic acid	0.987 g	
	Electricity	0.114 kWh	Process energy

Supplementary Table 16. Life cycle inventory for the production of xylitol.

Output	Input	Amount	Comment
Xylitol (6.13×10^{-4} kg)	Xylose rich hydroxylate	0.0138 kg	
	Fodder yeast	0.050 kg	Proxy for <i>pichia stipitis</i>
	Ammonium sulfate	0.001 kg	
	Magnesium sulfate	0.001 kg	
	Sodium phosphate	0.002 kg	
Xylose rich hydroxylate (6.88×10^{-3} kg)	Hemicellulose hydroxylate	0.0108 kg	
	Magnesium sulfate	0.050 kg	
	Water	1.00 kg	
	Electricity	1.50 kWh	Process energy
Hemicellulose hydroxylate (1.08×10^{-2} kg)	Wheat bran	0.003 kg	
	Water	3.00 kg	
	Electricity	6.00 kWh	Process energy

Supplementary Table 17. Life cycle inventory for the production of cellulose-rich films.

Output	Input	Amount	Comment
Cellulose-rich film (1 kg)	Glycerol (GLY)	0.338 kg	
	Cellulose nanofiber (CNF)	0.307 kg	
	Sodium carboxymethyl cellulose (CMC)	0.318 kg	
	Carrageenan (CAR)	0.0375 kg	Supplementary Table 18

Supplementary Table 18. Life cycle inventory for the production of carrageenan.

Output	Input	Amount	Comment
Carrageenan (0.27 kg)	<i>Eucheuma Cottoni</i>	2.70 kg	Seaweed
	Potassium chloride	1.89 kg	
	Potassium hydroxide	1.08 kg	
	Coal	2.03 kg	
	Water	232.2 kg	
	Electricity	0.728 kWh	Process energy

Supplementary Table 19. Environmental impact comparison of conventional plastics and biobased packaging films. A functional unit of 1 kg for each material is considered for the assessment. Comparison percentage in each category is provided in the parenthesis.

Environmental Impact (Unit)	LDPE	HDPE	PVC	Chitosan-Rich Film	Cellulose-Rich Film
Fossil fuel depletion (MJ surplus)	10.7 (99.4%)	10.8 (100.0%)	7.9 (73.4%)	2.6 (23.8%)	1.5 (14.1%)
Global warming (kg CO ₂ eq)	3.0 (84.7%)	2.8 (80.4%)	3.5 (100.0%)	1.3 (36.2%)	1.2 (34.6%)
Smog (kg O ₃ eq)	1.6×10^{-1} (91.7%)	1.5×10^{-1} (80.9%)	1.8×10^{-1} (100.0%)	1.2×10^{-1} (64.3%)	8.2×10^{-2} (45.9%)
Acidification (kg SO ₂ eq)	1.1×10^{-2} (81.3%)	1.0×10^{-2} (74.9%)	1.4×10^{-2} (100.0%)	1.1×10^{-2} (81.0%)	5.4×10^{-3} (38.4.8%)
Eutrophication (kg N eq)	7.0×10^{-3} (75.1%)	5.9×10^{-3} (63.4%)	9.3×10^{-3} (100.0%)	8.2×10^{-3} (88.1%)	3.3×10^{-3} (35.7.4%)
Carcinogenics (CTUh)	1.8×10^{-7} (65%)	1.9×10^{-7} (70%)	2.7×10^{-7} (100%)	1.7×10^{-7} (62%)	1.1×10^{-7} (40%)
Non-carcinogenics (CTUh)	4.7×10^{-7} (58%)	4.2×10^{-7} (52%)	8.1×10^{-7} (100%)	5.3×10^{-7} (65%)	3.2×10^{-7} (39%)

Respiratory effects (kg PM2.5 eq)	2.0×10^{-3} (74%)	1.7×10^{-3} (61%)	2.8×10^{-3} (100%)	1.7×10^{-3} (61%)	1.1×10^{-3} (39%)
Ecotoxicity (CTUe)	25.1 (51.8%)	23.5 (48.7%)	48.4 (100.0%)	29.9 (61.9%)	15.4 (31.8%)
Ozone depletion (kg CFC eq)	2.4×10^{-8} (2.2%)	2.3×10^{-8} (2.2%)	1.1×10^{-6} (100.0%)	4.0×10^{-7} (37.0%)	9.2×10^{-8} (8.4%)

Supplementary Video 1. A 3D heatmap containing ~0.15 billion nanocomposite formulations with the model-predicted T_{vis} , σ_u , and SED values.

Supplementary Video 2. Automated pipetting robot (i.e., OT-2 robot) for preparing 1,050 aqueous mixtures within 64 machine hours for 6 days.

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