Mapping the resistance landscape: A large-scale study of polymyxin-resistant pathogens circulating in low-and middle-income countries.

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Supplementary Methods

Table of Contents

Sample Preparation and Storage

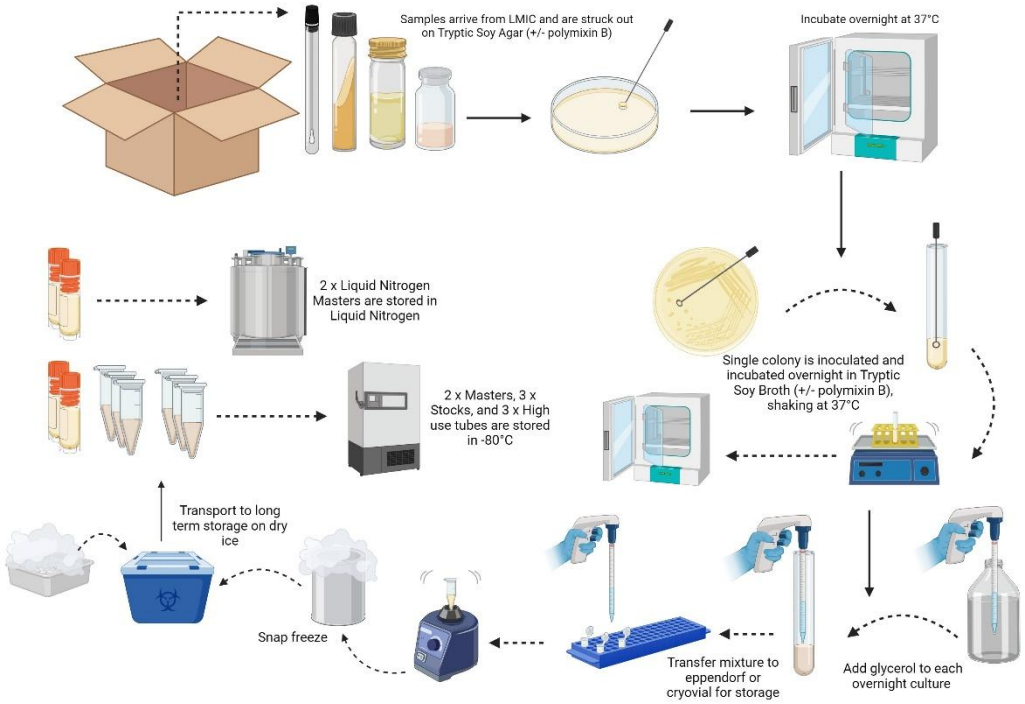

Figure S1: Scheme of sample preparation into glycerol stocks.

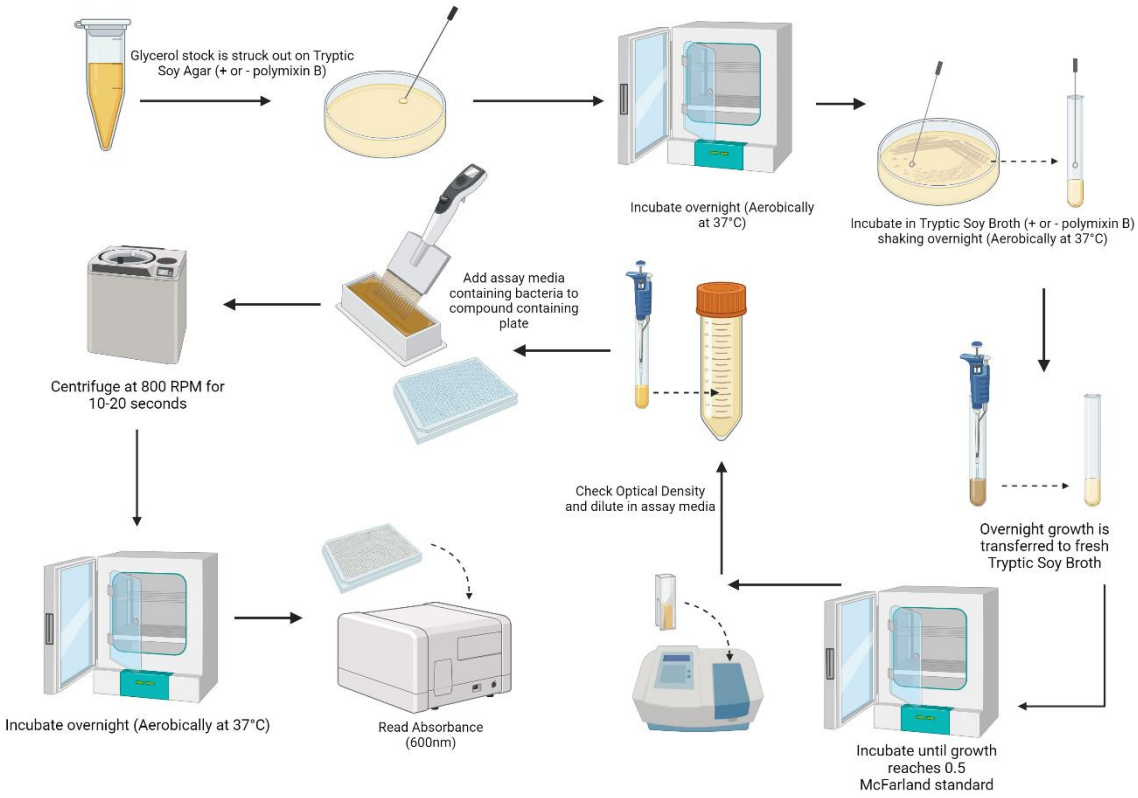

Figure S2: Scheme of performing antibiogram.

Antibiotics for BMD Antibiogram

Table S1: Antibiotics used for Antibiogram, including solvent and range of test concentrations.

Compound	Vendor	CatNo	Solvent	Test concentrations (µg/mL)	
				Max	Min
Amikacin	Sigma	A1774	Water	64	0.002
Ampicillin	Sigma	A6140	Phosphate buffer, pH 6.0, 0.1 mol/L	64	0.002
Azithromycin	TCIChem	A2076	Water	64	0.002
Aztreonam	Sigma	A6848	Water	64	0.002
Carbenicillin	AKScientific	C-1385	Water	32	0.001
Cefalotin	Fluorochem	36522	Water	32	0.001
Cefazolin	Glentham	GA2577	DMSO 7%	32	0.001
Cefepime	Sigma	PHR1763	0.1 M Phosphate buffer pH 6	64	0.002
Cefotaxime	Fluorochem	36515	Water	128	0.004
Cefotetan	Sigma	A5737	DMSO 7%	128	0.004
Cefoxitin	Glentham	GA4412	Water	32	0.001
Ceftaroline	AstraZeneca	TAK-599 U3	NaCl 0.85%	32	0.001
Ceftazidime	Sigma	C3809	Water	64	0.002
Ceftriaxone	Sigma	C5793	Water	128	0.004
Cefuroxime	AlfaAesar	J66999	0.1 M Phosphate buffer pH 6	32	0.001
Chloramphenicol	Sigma	C0378	Water	64	0.002
Ciprofloxacin	Sigma	17850	Water	32	0.001
Colistin	Sigma	C4461	Water	32	0.001
Doripenem	Glentham	GA9212	NaCl 0.85%	32	0.001
Doxycycline	Glentham	GA1726	Water	32	0.001
Ertapenem	Glentham	GA8176	0.01 M Phosphate buffer pH 7.2	32	0.001
Fosfomycin	Sigma	P5396	Water	256	0.008
Gentamicin	Sigma	G1914	Water	32	0.001
Imipenem	Glentham	GA1119	0.01 M Phosphate buffer pH 7.2	32	0.001
Levofloxacin	Sigma	28266	Water	32	0.001
Meropenem	Glentham	GP7412	Water	32	0.001
Minocycline	Glentham	GA7395	Water	32	0.001
Moxifloxacin	Glentham	GA9781	Water	32	0.001
Nalidixic acid	Sigma	N4382	Water	32	0.001
Netilmicin	Glentham	GA1999	Water	64	0.002
Nitrofurantoin	AlfaAesar	B24079	DMSO 50%	128	0.004
Ofloxacin	Glentham	GA7752	Water	32	0.001
Piperacillin	Sigma	P8396	Water	32	0.001
Polymyxin B	Sigma	P0972	Water	32	0.001
Streptomycin	Sigma	S6501	Water	64	0.002
Tetracycline	Sigma	T7660	Water	32	0.001
Ticarcillin	Glentham	GA1874	0.1 M Phosphate buffer pH 6	32	0.001
Tigecycline	Glentham	GK6202	Water	32	0.001
Tobramycin	Sigma	PHR1079	Water	32	0.001
Trimethoprim	Sigma	T7883	Water	64	0.002
Sulfamethoxazole	Sigma	S7507		1216	0.037
Amoxicillin	Sigma	A8523	DMSO 7%	64	0.002

Compound	Vendor	CatNo	Solvent	Test concentrations (µg/mL)	
				Max	Min
Clavulanic acid	Glentham	GA1260		2	2[#]
Ampicillin	Sigma	A6140	0.1 M Phosphate buffer pH 6	64	0.002
Sulbactam	TCIChem	S0868		4	4[#]
Piperacillin	Sigma	P8396	Water	256	0.008
Tazobactam	Glentham	GA7262		4	4[#]
Ticarcillin	Glentham	GA1874	0.1 M Phosphate buffer pH 6	64	0.002
Clavulanic acid	Glentham	GA1260		2	2[#]

MDR, XDR and PDR Distribution

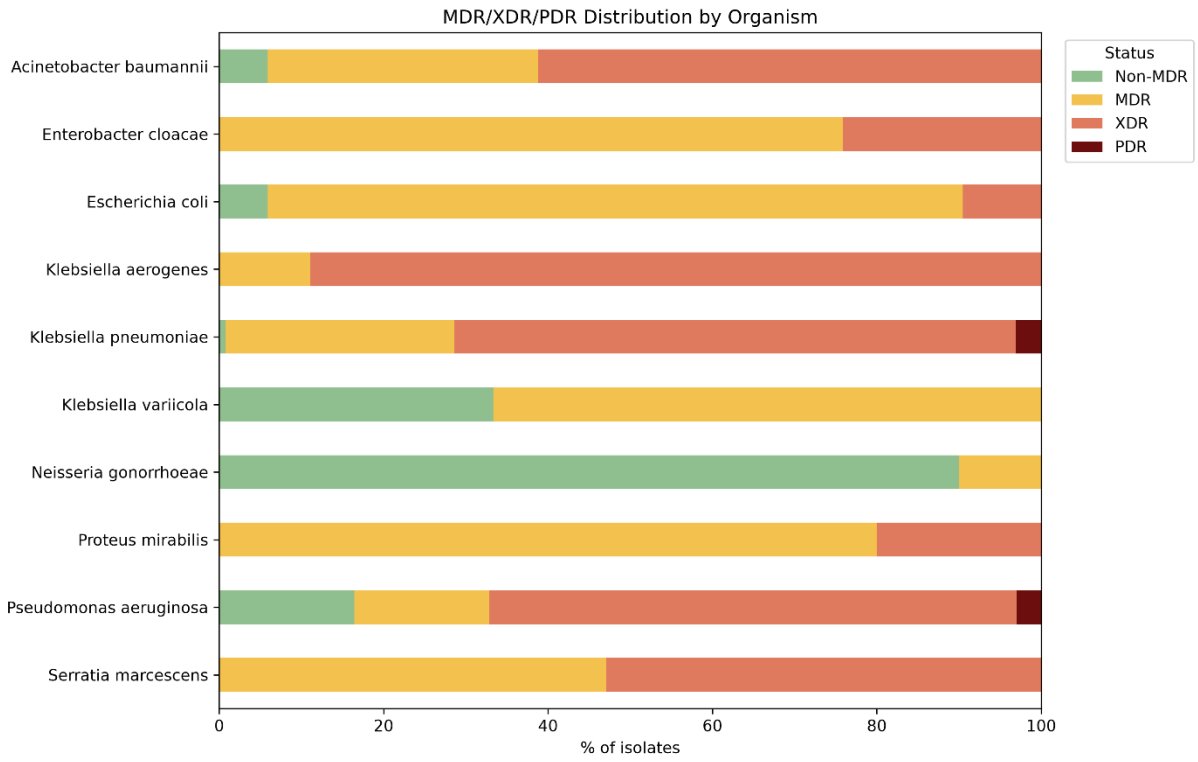

Figure S3: Distribution of multidrug-resistant (MDR), extremely drug resistant (XDR) and pandrug-resistant (PDR) phenotypes, for each organism within the collection.

Genotype vs Phenotype comparison

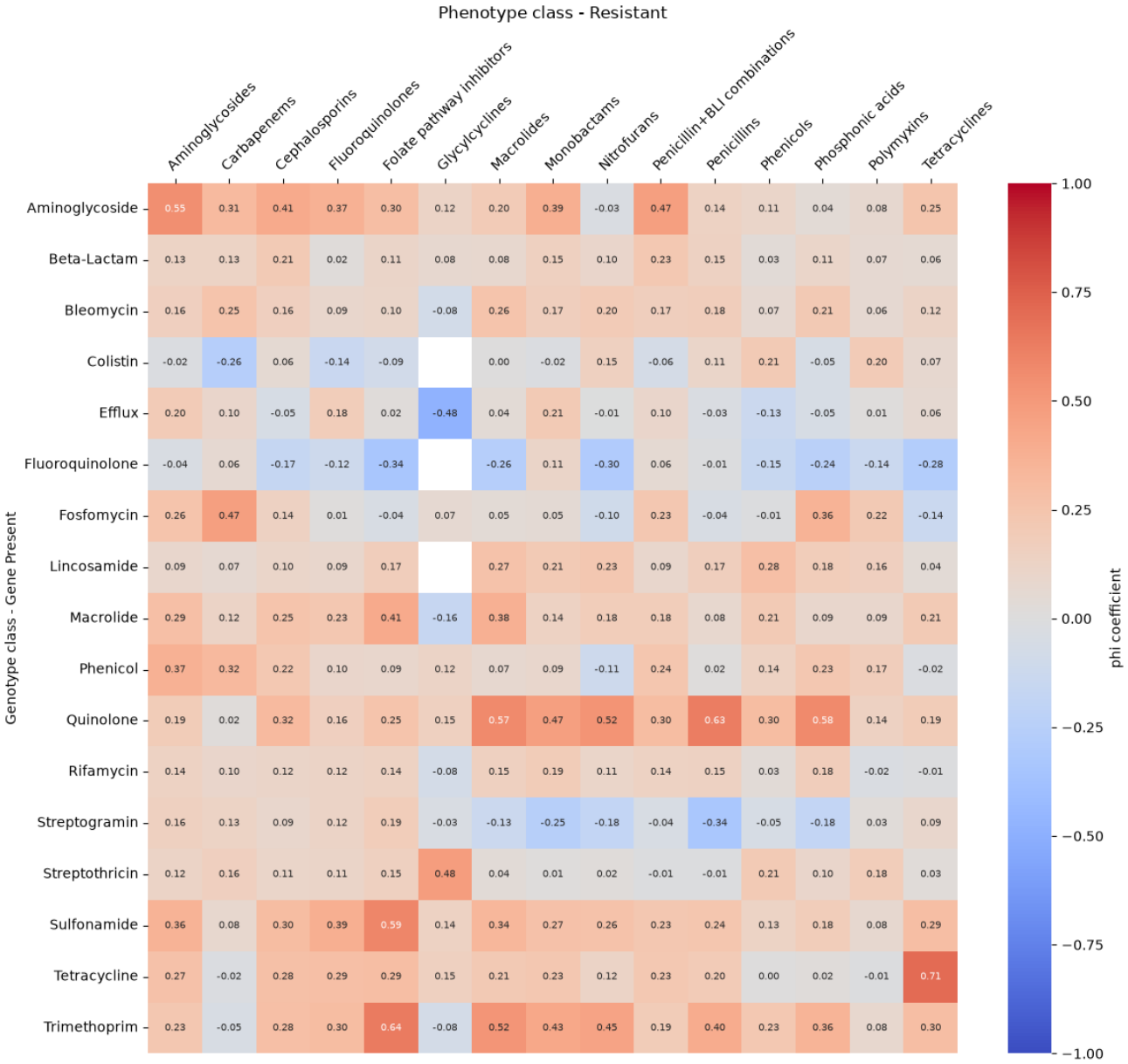

Figure S4: Correlation matrix between Genotype (AMR gene present) and Phenotype (Resistance) for different antibiotic and AMR classes.

The correlation between Genotype and Phenotype was performed using binary correlation between the present of at least one AMR gene class, and the resistance against at least 1 antibiotic within a antibiotic class.

Polymyxin B vs Colistin MIC values

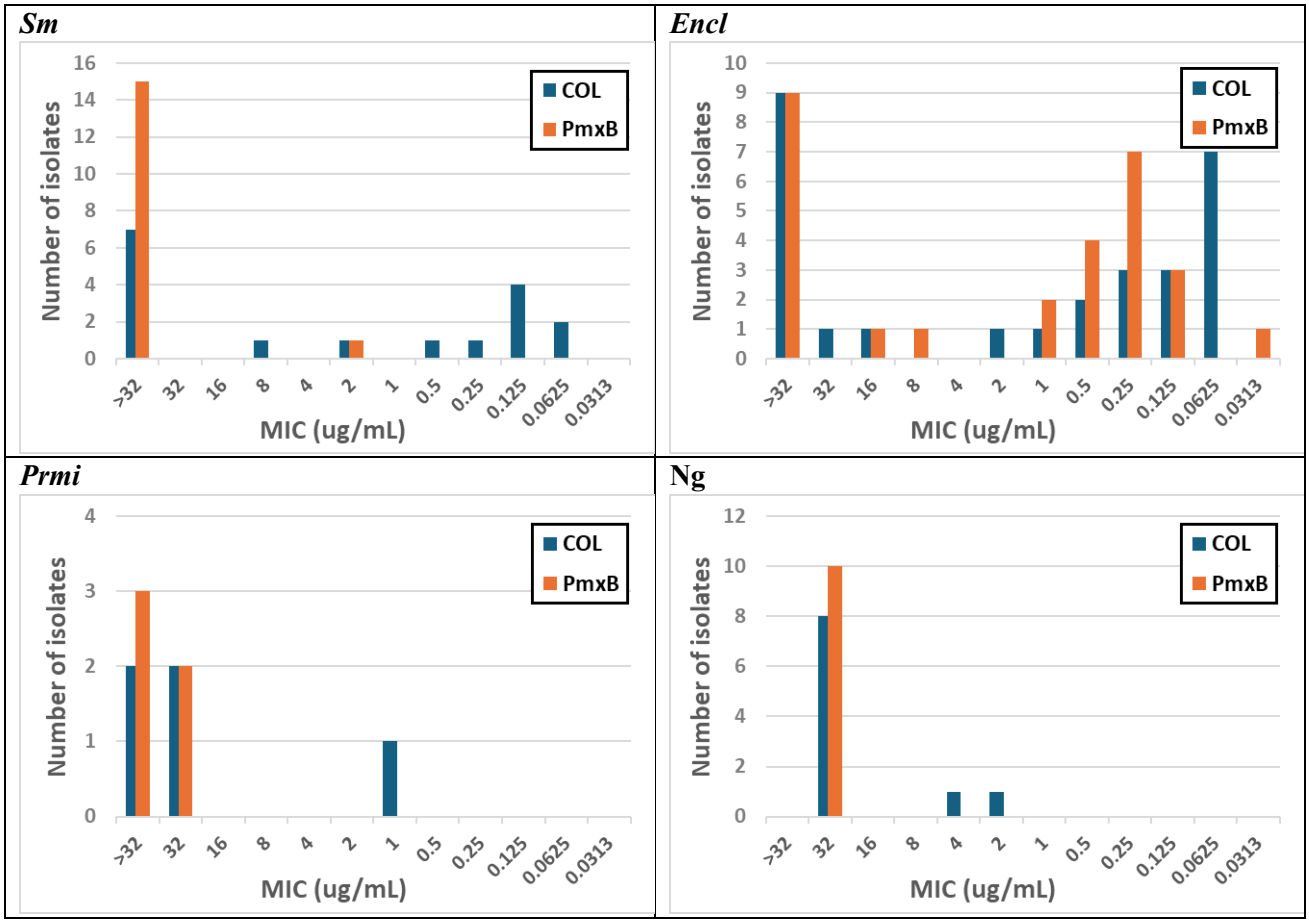

Figure S5: Distribution of MIC of Colistin and (COL) and Polymyxin B (PmxB) for: *Serratia marcescens* (Sm), *Enterobacter cloacae* complex (Encl), *Proteus mirabilis* (Prmi), and *Neisseria gonorrhoeae* (Ng) isolates.