

| Table S2. Co-infection spectrum of PTB and non-PTB |           |       |          |              |
|----------------------------------------------------|-----------|-------|----------|--------------|
| Co-infection pathogens                             | Class     | mNGS  | HDA-mNGS | HDA-Nanopore |
| MTB                                                | Bacterium | 43/98 | 61/98    | 48/98        |
| Human herpesvirus 7                                | Virus     | 12/18 | 18/18    | 9/18         |
| <i>Candida parapsilosis</i>                        | Fungus    | 15/15 | 15/15    | 0/15         |
| <i>Haemophilus influenzae</i>                      | Bacterium | 8/10  | 10/10    | 6/10         |
| Human herpesvirus 4                                | Virus     | 9/9   | 9/9      | 2/9          |
| <i>Streptococcus pneumoniae</i>                    | Bacterium | 6/6   | 6/6      | 2/6          |
| <i>Streptococcus constellatus</i>                  | Bacterium | 6/6   | 6/6      | 6/6          |
| <i>Candida albicans</i>                            | Fungus    | 5/5   | 5/5      | 3/5          |
| Human betaherpesvirus 5                            | Virus     | 5/5   | 5/5      | 2/5          |
| <i>Staphylococcus aureus</i>                       | Bacterium | 3/4   | 4/4      | 3/4          |
| <i>Aspergillus fumigatus</i>                       | Fungus    | 4/4   | 4/4      | 2/4          |
| <i>Pseudomonas aeruginosa</i>                      | Bacterium | 3/3   | 3/3      | 3/3          |
| <i>Klebsiella aerogenes</i>                        | Bacterium | 2/2   | 2/2      | 2/2          |
| <i>Klebsiella pneumoniae</i>                       | Bacterium | 2/2   | 2/2      | 2/2          |
| <i>Klebsiella michiganensis</i>                    | Bacterium | 2/2   | 2/2      | 0/2          |
| <i>Mycobacterium avium-intracellulare</i> complex  | Bacterium | 2/2   | 2/2      | 0/2          |
| <i>Stenotrophomonas maltophilia</i>                | Bacterium | 2/2   | 2/2      | 2/2          |
| <i>Enterobacter cloacae</i> complex                | Bacterium | 2/2   | 2/2      | 0/2          |
| <i>Klebsiella varicola</i>                         | Bacterium | 0/1   | 1/1      | 1/1          |
| <i>Escherichia coli</i>                            | Bacterium | 1/1   | 1/1      | 1/1          |
| <i>Mycoplasma pneumoniae</i>                       | Bacterium | 1/1   | 1/1      | 1/1          |
| <i>Citrobacter freundii</i>                        | Bacterium | 1/1   | 1/1      | 0/1          |
| <i>Tropheryma whippelii</i>                        | Bacterium | 1/1   | 1/1      | 1/1          |
| <i>Serratia liquefaciens</i>                       | Bacterium | 1/1   | 1/1      | 1/1          |
| <i>Serratia marcescens</i>                         | Bacterium | 1/1   | 1/1      | 1/1          |
| <i>Kluyvera intermedia</i>                         | Bacterium | 1/1   | 1/1      | 0/1          |
| <i>Aspergillus flavus</i>                          | Fungus    | 1/1   | 1/1      | 1/1          |
| <i>Pneumocystis jirovecii</i>                      | Fungus    | 1/1   | 1/1      | 0/1          |
| Human herpes simplex virus 1                       | Virus     | 1/1   | 1/1      | 0/1          |
| Human herpes simplex virus 6B                      | Virus     | 1/1   | 1/1      | 0/1          |