**Investigating the effectiveness of the broad spectrum antimicrobial agent P-Ag-MSN**

*Figure 1A, 1B, 1C, and 1D. Growth curves of four micro-organisms in various concentrations of P-Ag-MSN (platelet derived growth factor incorporated into silver mesopore nanoparticles). The bacteria were Escherichia coli; Candida**albicans; Pseudomonas aeruginosa; and Staphylococcus aureus.*

The data above was obtained from a study investigating usefulness of P-Ag-MSN as a biomedical scaffolding material (see reference below). The specific idea behind the research was to investigate if P-Ag-MSN would be useful as a scaffold (support structure) to grow human tissue in a lab setting. One of the three factors looked at by the research was the antimicrobial activity of P-Ag-MSN. Antimicrobial activity is simply measuring how well something stops the growth of a range of microscopic organisms. The data above measures the effectiveness of P-Ag-MSN at stopping the growth of 3 bacteria (*Escherichia coli; Pseudomonas aeruginosa; and Staphylococcus aureus*), and one common fungus (*Candida albicans*). The concentrations mentioned above are in micrograms (µg) of the growth factor per millilitre of the silver mesopore nanoparticles.

**What trends can be identified in each graph? Data to support this?**

**What conclusion can be drawn from each graph? Trend (or data) to support this?**

**What conclusion can be drawn from all four graphs? Trend (or data) to support this?**

**Reference**

*Ma C, Wei Q, Cao B, Cheng X, Tian J, Pu H, et al. (2017) A multifunctional bioactive material that stimulates osteogenesis and promotes the vascularization bone marrow stem cells and their resistance to bacterial infection. PLoS ONE 12(3): e0172499. doi:10.1371/journal.pone.0172499*