**Bacterial Growth Curve Experiment**

Instruction:

In excel, plot two graphs in **logarithmic form**

1st graph: time and transmittance, each graph will have five different graph lines with: group A, group B, group C, group D, group F information of transmittance (1st graph) and absorption (2nd graph)

2nd graph time and absorption, each graph will have five different graph lines with: group A, group B, group C, group D, group F.

First Graph:

Group A: this bacteria were at room temperature and no shaking (no agitation)

|  |  |
| --- | --- |
| Time | Transmittance |
| 0 minutes | 0.1 |
| 30 minutes | 0.12 |
| 60 minutes | 0.16 |
| 90 minutes | 0.24 |

Group B: this bacteria were at temperature 37 degree and No shaker

|  |  |
| --- | --- |
| Time | Transmittance |
| 0 minutes | 80 |
| 30 minutes | 63 |
| 50 minutes | 42 |
| 70 minutes | 12 |

Group C: this bacteria were at 37 degree and shaker

|  |  |
| --- | --- |
| Time | Transmittance |
| 0 minutes | 80 |
| 30 minutes | 67 |
| 50 minutes | 40 |
| 70 minutes | 20 |
| 90 minutes | 6 |

Group D: This bacteria were at room temperature and with some agitation

|  |  |
| --- | --- |
| Time | Transmittance |
| 0 minutes | 81 |
| 30 minutes | 80 |
| 50 minutes | 75 |
| 70 minutes | 72 |
| 90 minutes | 65 |
| 105 minutes | 61 |

Group F: This bacteria were at 37 degrees and with some agitation

|  |  |
| --- | --- |
| Time | Transmittance |
| 0 minutes | 80 |
| 30 minutes | 60 |
| 60 minutes | 25 |
| 90 minutes | 4 |

Second graph( time vs absorbance)

Group A this bacteria were at room temperature and no shaking (no agitation)

|  |  |
| --- | --- |
| Time | Absorbance |
| 0 minutes | 78 |
| 30 minutes | 75 |
| 60 minutes | 69 |
| 90 minutes | 57 |

Group B this bacteria were at temperature 37 degree and No shaker

|  |  |
| --- | --- |
| Time | absorbance |
| 0 minutes | 0.09 |
| 30 minutes | 0.2 |
| 60 minutes | 0.36 |
| 90 minutes | 0.95 |

Group C this bacteria were at 37 degree and shaker

|  |  |
| --- | --- |
| Time | absorbance |
| 0 minutes | 0.1 |
| 30 minutes | 0.275 |
| 50 minutes | 0.4 |
| 70 minutes | 0.7 |
| 90 minutes | 1.30 |

Group D This bacteria were at room temperature and with some agitation

|  |  |
| --- | --- |
| Time | absorbance |
| 0 minutes | 0.09 |
| 30 minutes | 0.09 |
| 50 minutes | 0.12 |
| 70 minutes | 0.14 |
| 90 minutes | 0.19 |
| 105 minutes | 0.23 |

Group F: This bacteria were at 37 degrees and with some agitation

|  |  |
| --- | --- |
| Time | absorbance |
| 0 minutes | 0.09 |
| 30 minutes | 0.21 |
| 60 minutes | 0.60 |
| 90 minutes | 1.40 |

From this information plot in excel, answer this questions:

consider which condition: (based on the graph and the conditions that this bacteria were: temperature, agitation)  
  
  
[1] Promoted the most – Activity

[2] Promoted the most –Bacterial growth   
  
[3] Was least favorable to microbial growth  
  
[4] Had no significant influence on microbial growth  
  
[5] Resulted in the fastest Generation time