

Name: \_\_\_\_\_ EID: \_\_\_\_\_

## Topic: DNA Assembly Methods (Week 4)

Pre-discussion questions. Answer briefly. Use only the space provided.

- 1) What genome had the JCVI (TIGR) team previously synthesized? Why did they choose to synthesize a *Mycoplasma* genome as the first example of a self-replicating organism? (Hint: how many base pairs are in *Mycoplasma mycoides* versus *Escherichia coli*?)
- 2) What was the one mutation that prevented successful transplantation of the first genome the JCVI team synthesized?
- 3) How did the team know that they had successfully transplanted their synthetic genome versus a contaminating copy of a natural genome? (Hint: there are multiple possible answers)
- 4) What is one of the quotations encoded in the chemically synthesized *Mycoplasma mycoides* genome? Explain why you think the JCVI team chose to include this particular quotation OR suggest an additional quotation that you would have included.