

Bioengineering 498A: Systems and Synthetic Biology

Feb 27, 2009

Homework Assignment

Due: 6th March 2009

Points awarded for each question are indicated in square brackets. Return assignment with your name clearly indicated at the top of your answer sheet. [Total points: 100]

[40] **Question 1.** Design a protein network that can behave as a XOR gate.

[60] **Question 2.** Take the Half-Adder protein network shown in the class slides and redesign so that it uses fewer components.

**For each question, carry out suitable simulations to show that
your design operates as expected.**