iGEM report week 22–25/07

July 25, 2008

1 Wet Lab

The iGEM headquarters sent us the BioBricks we requested already transformed in bacteria. These were grown and a double glycerol stock was made. It is however not clear in which bacteria these plasmids were sent to us.

Also, we started constructing the input (**Ba_M30109**), output (**BBa_R0084 – BBa_B0032 – BBa_E0022 – BBa_B0015**) and a system that should test our input device (**BBa_R0084 – BBa_B0034 – BBa_I714891 – BBa_B0015 – BBa_J23100 – BBa_B0034 – BBa_C0040 – BBa_B0015**). We already started to ligate the well-cut parts (checked by gel electrophoresis). The parts that were not properly cut, are cut again. Major problem is the long duration of the ligation and re-transformation protocol.

2 Dry lab

After some uncertainties about a stop codon in the scar between two BioBricks, we decided to make a fusion between the T7 polymerase and the N-terminal UmuD-derived tag directly linked to each other. That way, the tag is not immediately considered as a discrete BioBrick. The tag will be added to the T7 RNA polymerase through primers. As a result of this, some primers can be quite long (up to 90bp).

As a result of the long duration of the ligation and re-transformation, we reasoned that it would be interesting to do a check after every ligation and transformation if everything went fine. This could be done by PCR, by means of the VF2 and VR primers. Once a complete (sub)system has been made, a sequence analysis could be interesting.

3 Modeling

Accomplishments: modeling of pulse generator + making Matlab model of a pulse generator of Keasling Lab, new model for memory system, updating wiki (pdf files for ODE's, subdivision of every part + useful information…)

Problems: memory system needs an extra repressor (can be done if we don't need the pulse generator), the cI value is not high enough for cell death (pulse generator).