Table1: Components

Component	Justification and description
CI promoter for RcnA	pcI is repressed by CI and this way, we can repress the RcnA transcription.
RcnA[1,2]	Nickel and cobalt efflux pump protein.We chose RcnA due to its high especificity for nickel. Besides, it is encoded by only one quite short gene. Nickel was selected because E. coli can tolerate high doses of this metal, and the amount the cell uses is negligible compared to the concentrations we are using.
pBBR1MCS-5[3]	It is a gentamicin resistant low copy number plasmid. Belongs to a compatibility group different from the PRK415's one.
AHL[4]	Acyl-homoserine lactone. Is the input signal. We decided to use this compound because its easy to degradate it and start a new signal.
TetR promoter for luxR [5]	A moderate-strong promoter for luxR, it ensures that LuxR's concentration is not the limiting step for CI synthesis. Thus, we control all CI expression through the addition of AHL.
LuxR[6,7,8]	LuxR binds to AHL to activate the transcription of the genes downstream of LuxR:AHL promoter.
LuxR:AHL promoter	Inducible by the AHL:LuxR dimer.
CI*[9,10,11,12]	CI*[1,2] is a modified form of the cI repressor from lambda phage. It has a LVA tail for quick degradation. A quicker CI degradation would ensure the signal is not always on.
lacZ promoter [13]	Constitutive promoter, allowing an active aiiA transcription so AHL can be efficiently degraded.
lacZ* promoter	pLacZ is a mutated version of pLacZ, produced by site directed mutagenesis, changing a T for a C. This was done in the pursuit to lower aiiA's transcription, (a higher amount of AiiA means a quicker AHL degradation and could lead to signal weakening.
AiiA [14,15]	AiiA is the protein which degradates AHL ensuring that the signal doesn't last for too long.
pRK415 [16]	It is a tetracycline resistant low copy numer plasmid which carries LacZ gene.
E. coli W3110 Yoh-	E. coli k12 substrain W3110 which has a mutation in the YohM (RcnA) gene. YohM was replaced for kanamycin resistance