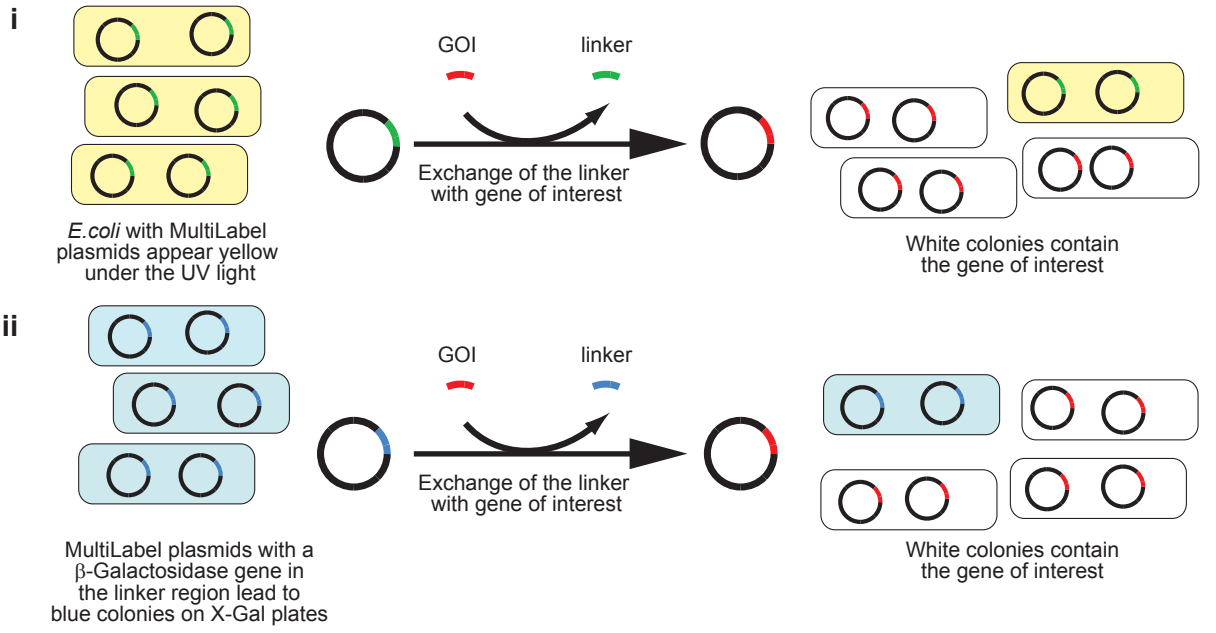
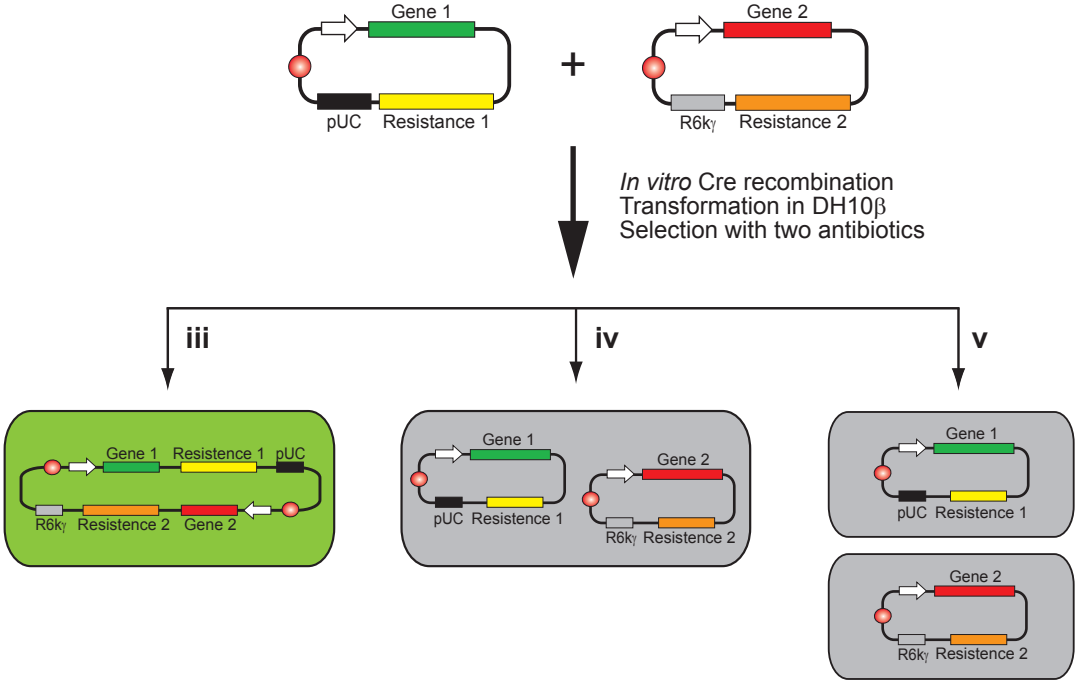
Supplementary Figure 2: Selection procedures

A) Visual selection of *E.coli* colonies carrying a single expression cassette vectors



B) Selection strategy of *E.coli* with a multigene vector



(A) Visual selection of E.coli. (i) MultiLabel plasmids contain a “linker” region with a GFP with a constitutive active bacterial promoter instead of a classical polylinker. This allows visual selection under the UV light. Colonies with the parental plasmid are yellow in ultraviolet illumination and can be ignored. (ii) A new set of MultiLabel plasmids contains a β-Galactosidase gene instead of fluorescent proteins to circumvent legal problems. Therefore, agar plates with X-Gal are needed for visual selection. Colonies with the parental plasmid are blue and can be ignored.
(B) The selection after cre-mediated assembly is based on the combination of resistance genes and different origins of replication. Donor vectors contain a conditional R6Kγ origin of replication which does not allow plasmid propagation in pir- strains. Therefore, this bacteria can not develop the linked antibiotic resistance (grey cells in iv, v). Only recombined plasmids can grow on appropriate combinations of antibiotics in DH10β or TopTen cells (green bacteria in iii).