Addition of inducer for expression of target gene from plasmid

Knockout of the target gene as expressing the target gene from the plasmid by inducer addition → Determination of initial cellular state

Introduction of the single-copy plasmid carrying target gene under inducible promoter

Changing inducer concentration added to the medium

Determination of initial cellular state

Applying perturbation to expression of the target gene

E. coli genome

pFE604 (mini F) carrying target gene

Enzymes coded by target gene

Knockout of the target gene on E. coli genome

Addition of inducer for expression of target gene from plasmid

Fig. 1 Usui et al.