

Table S1 Antibiotic resistance profile

Antibiotics	MIC ($\mu\text{g/mL}$)	Drug sensitivity
amoxicillin/clavulanic acid	≥ 32.0	R
piperacillin/tazobactam	≥ 128.0	R
cefuroxime	≥ 64.0	R
cefuroxime 0	≥ 64.0	R
cefoxitin	≥ 64.0	R
ceftazidime	≥ 64.0	R
ceftriaxone	≥ 64.0	R
cefoperazone/sulbactam	32.0	I
cefepime	16.0	I
imipenem	≥ 16.0	R
levofloxacin	≥ 8.0	R
tigecycline	2.0	S
sulfamethoxazole	≥ 320.0	R

Information was provided by Guangzhou Chest Hospital.

R: resistant; I: between the range of resistant and sensitive; S: sensitive.

Table S2 Bacterial strains and plasmids used in this study

Plasmid/strains	Notes	Source
pMABH1	Containing the <i>apr</i> gene	Our lab
pUC18T-mini-Tn7T-lux-Tp	Backbone vector containing <i>luxCDABE</i>	[12]
pUC18T-mini-Tn7T-lux-Ab-di	Containing <i>luxCDABE</i> and <i>dif-apr-dif</i>	This study
f-apr	Helper plasmid	
pTNS3	facilitating Tn7 to transpose	[12]
<i>E. coli</i> DH5a	General cloning	Purchased from Dongsheng Guangzhou
<i>Acinetobacter baumannii</i>	Parental strain (clinical MDR- <i>Ab</i>)	Provided by Guangzhou Chest Hospital and confirmed by 16S rRNA gene sequencing

Table S3 Removal efficiency of the resistance gene

Round	No. of colonies that failed to grow on APR-containing plates per 50 colonies	Removal efficiency^b
1	(1, 0, 2) 1 ^a	2%
2	(2, 2, 2) 2 ^a	4%
3	(4, 6, 5) 5 ^a	10%
4	(12, 9, 9) 10 ^a	20%
5	(14, 15, 13) 14 ^a	28%

^aColony numbers from 3 independent experiments are bracketed, followed by the mean values.

^bThe removal efficiency was calculated based on the corresponding mean values.

Fig. S1

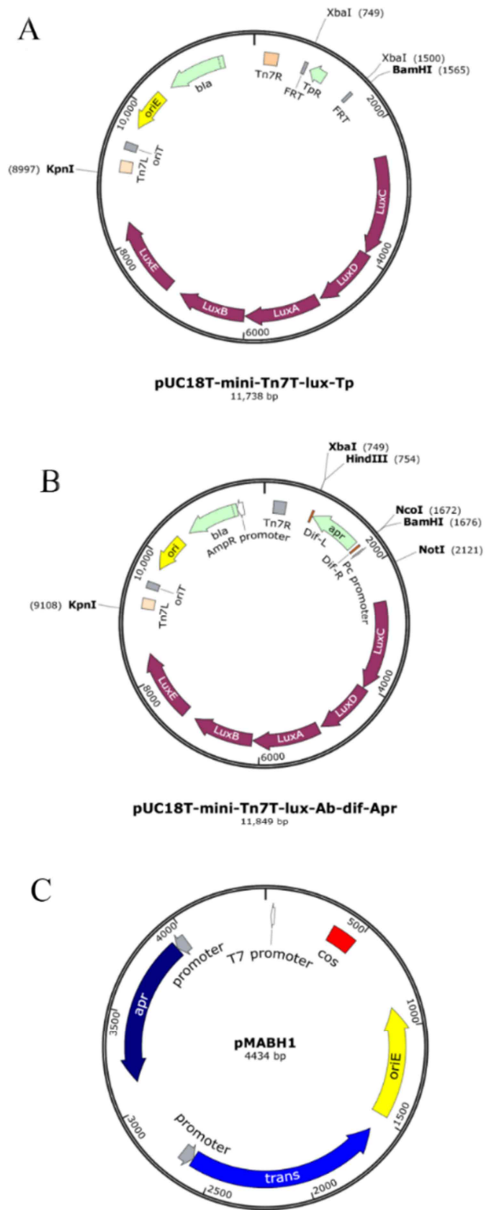


Fig. S1 Plasmid maps used in this study. **A:** pUC18T-mini-Tn7T-lux-Tp contains the *luxCDABE* operon and Tn7. **B:** Recombinant plasmid pUC18T-mini-Tn7T-lux-Ab-dif-apr. *OriE*, origin of replication in *E. coli*; *bla*, ampicillin resistance-conferring gene; *apr*, APR resistance-conferring gene. **C:** pMABH1 contains *trans* and *apr*.

Fig. S2

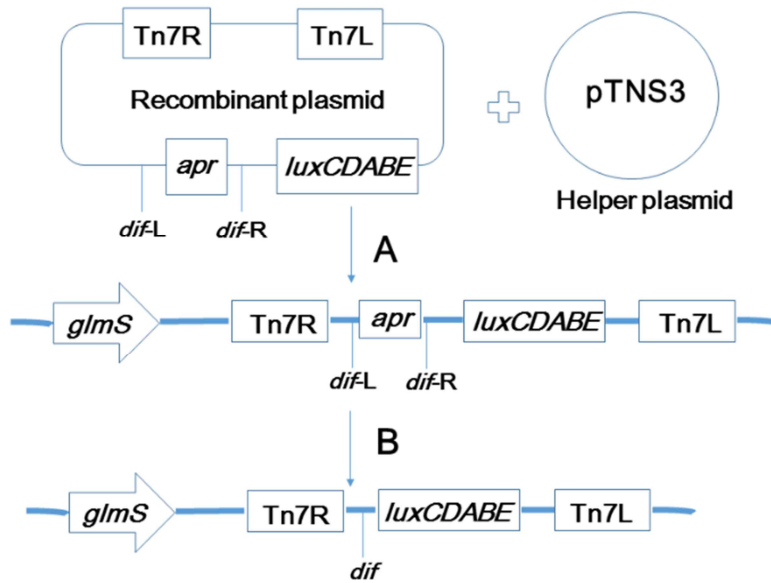


Fig. S2 Plasmid insertion and marker-deletion workflow. **A:** Recombinant plasmid containing Tn7 was introduced into *Ab* with the helper plasmid pTNS3 by electroporation. **B:** The *dif* sequences were recognized and cleaved by endogenous XerC and XerD expressed by *Ab* itself, leading to the removal of the resistance gene.