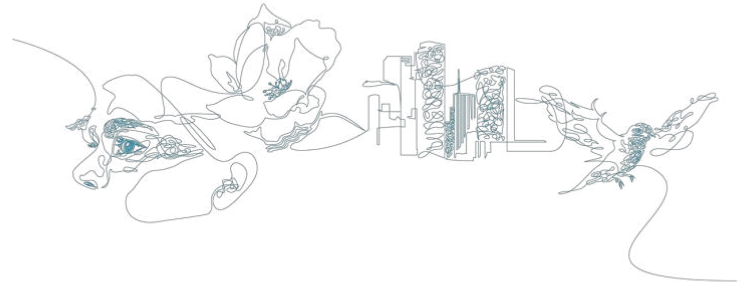
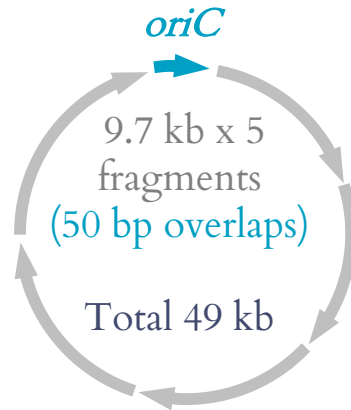


Genome DNA reconstitution/ Long DNA/ Lytic ability

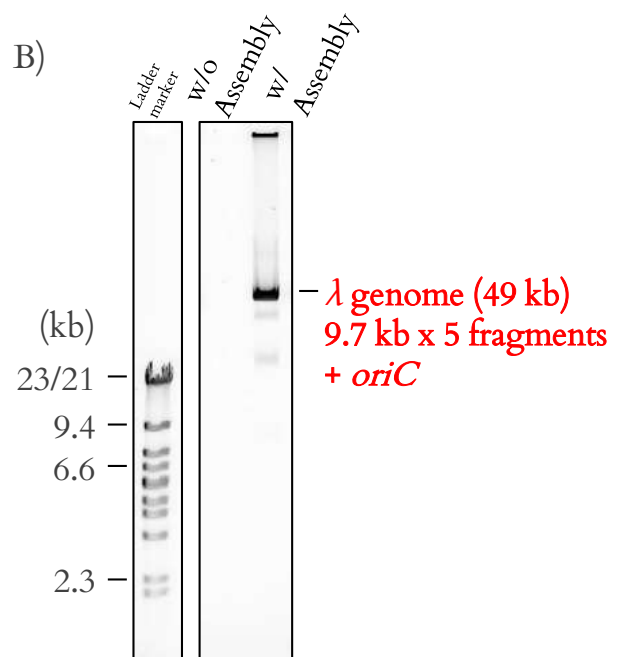
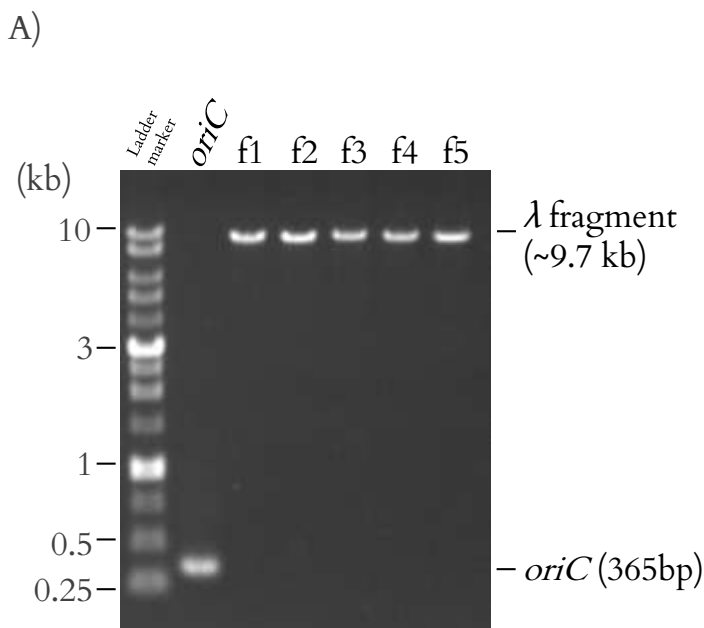
Lambda DNA Assembly and Amplification

I. DNA construct



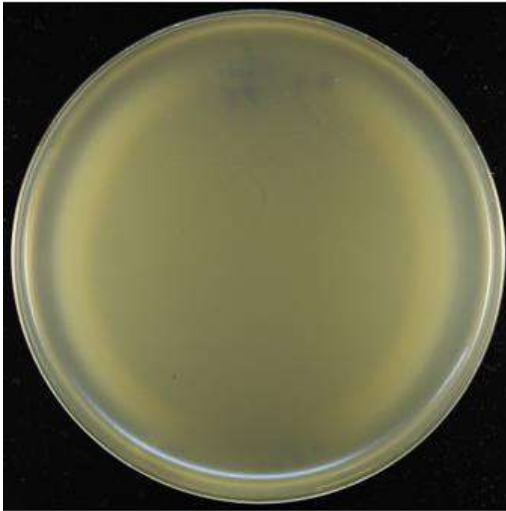
II. Result

- A) **PCR of Lambda DNA fragments.** KOD FX Neo and KOD Plus Neo (Toyobo) were used for PCR of lambda DNA fragments and *oriC* cassette, respectively.
- B) **Assembly and Amplification of 49 kb Lambda DNA with *oriC*.** Assembly reaction was carried out at 42°C for 60 minutes and the mixture was treated at 65°C to repress misannealed products. Using an aliquot of the assembly reaction, amplification of 49 kb circular DNA was performed at 30°C for 15 hours. The amplified product was analyzed by agarose gel electrophoresis.



- C) **Plaque Assay.** Amplified DNA was used for in vitro packaging system of lambda phage. *Escherichia coli* strain (MG1655 Δ hdsR Δ endA) was infected with packaging extract only or lambda phage which contains the amplified DNA.

Negative Control
(Packaging Extract only)



λ genome (49 kb) 9.7 kb x 5
fragments
+ *oriC* - packaged λ phage

