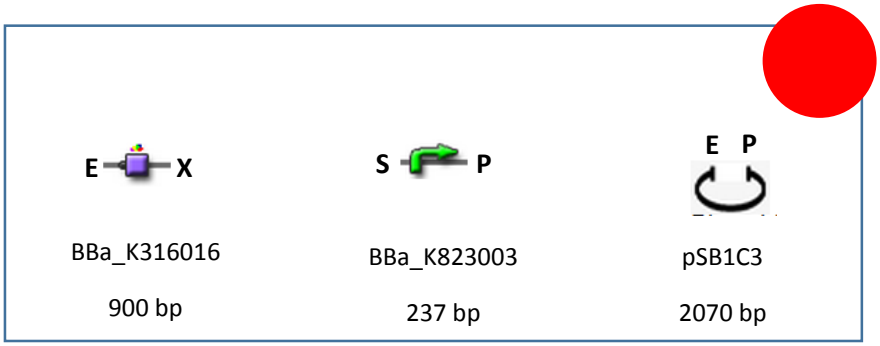
Assembly:

A V



1st Day

EXSP Digestion (see **Enzymatic Digestion Protocol**)

Parts	ng/ul	Volume to 2,5 ug (ul)	Buffer x10 (ul)	EcoRI (ul)	XbaI (ul)	SpeI (ul)	PstI (ul)	H_2O to 50ul (ul)
BBa_K316016	~200	13,0	5	1	-	1	-	30
BBa_K823003	151,4	**3 ug** = 20 ul	5	-	1	-	1	23
pSB1C3	107,3	24,3	5	1	-	-	1	20,7

Repeat this digestion only if you run out of stock

2nd Day

Gel Purification

- See **Kit Wizard SV gel and PCR clean up Promega Protocol**
- Quantify digestion products

Parts	ng/ul	260/280
BBa_K316016 (ES)	16,3	1,89
BBa_K823003 (XP)	5,7	1,91
pSB1C3 (EP)	24,3	2,83

Obs: 260/280 in a quality parameter that tells you if your sample is contaminated with proteins. The greater it is compared to 1 the less contaminants you have.

Ligation (see **Ligation Protocol**)

Linear Plasmid 50 ng	2 ul	
Insert : Plasmid 3:1 (BBa_K316016) ; 5:1 (BBa_K823003)	BBa_K316016	BBa_K823003
	5 ul	4 ul
10x T4 DNA Buffer	2 ul	
T4 DNA ligase 1u	1 ul	
H_20 to 20 ul	6 ul	

Obs: To determinate the amount of DNA necessary we used the following equation

$$Insert\ ng = plasmid\ ng \times \frac{insert\ bp}{plasmid\ bp} \times insert{:}\,plasmid\ ratio$$

- Incubate overnight at 37°C.
- Prepare and sterilize in the autoclave tubes with 6 ml of liquid LB medium
- Prepare glycerol 40%

3rd Day

Transformation (see **Transformation Protocol in *Escherichia coli* TOP10**)

Organism: *E. coli* TOP10 Invitrogen

Selection: Cloranphenicol

4th Day

- Inoculate 3 – 4 colonies in a 6 ml LB with the same antibiotic used in the transformation protocol.

5th Day

Miniprep

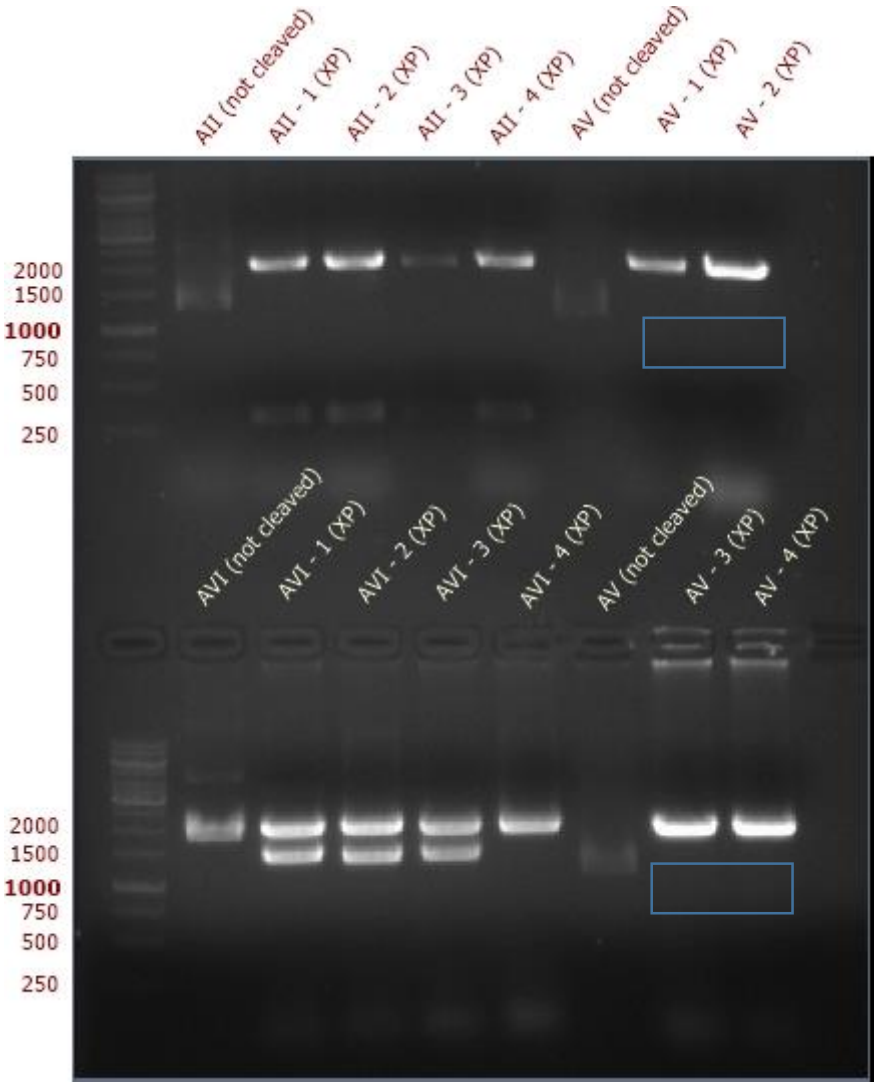
- Prepare **glycerol stock** of the clones.
- Extract plasmidial DNA (see **Alkaline Lyses or PureLink Invitrogen Protocol**)
- Run a preliminary electrophoresis gel.
- Quantify DNA samples.

Assembly Confirmation

- XP Digestion (see **Enzymatic Digestion Protocol**)

Assembly	Volume to 300 ng (ul)	Buffer x10 (ul)	XbaI (ul)	PstI (ul)	H_2O to 10ul (ul)
AV – 1	3	1	0,5	0,5	5
AV – 2	3	1	0,5	0,5	5
AV – 3	3	1	0,5	0,5	5
AV – 4	3	1	0,5	0,5	5

- Incubate for 2 hours at 37°C.
- Prepare samples for DNA sequencing.
- Run an electrophoresis analysis of the XP digestion



The assembly failed.