Protocol for chemical inducible expression of GFP

Materials:
- 4 groups of induce solution with a concentration gradient of $10^{-7}$, $10^{-5}$, $10^{-3}$, $10^{-2}$;
- Overnight bacterial culture or bacterial colonies;
- Phosphate Buffered Solution (PBS).

Procedure:
1. Add 20 µl of the overnight bacterial culture or pick a colony to 5ml of LB antibiotic medium, Incubate at 37 degree in a shaker till the OD600 value reaches 0.4-0.6.
2. Add 0.5 mL of the fresh bacterial culture and appropriate volume of inducer solution to prepare induction system with the concentration gradient of $10^{-9}$, $10^{-8}$, $10^{-7}$, $10^{-6}$, $10^{-5}$, $10^{-4}$, $10^{-3}$, $10^{-2}$.
3. Place the induction system at 37 degree for 2 hours.
4. Pellet bacterial cells by 4 min centrifugation at 4000 rpm, discard the supernatant.
5. Resuspend the pelleted cells in 500 µl of PBS.
6. Transfer 100 uL of bacterial resuspension into each well of 96-well plate to test the expression of GFP by flow cytometry or Microplate Reader.

Note:
If desired, time sequential expression of GFP can also be tested, through verifying the incubating time of induction system at 37 degree.