|  |  |
| --- | --- |
| **Reaction condition (unit)** | **Parameter with increasing order** |
| Reaction temperature (°C) | 60, 63, 65  |
| dNTP Mix (mM) | 1.2, 1.4, 1.6, 1.8  |
| MgSO4 (mM) | 4, 6, 8,10  |
| Betaine (M) | 0.2, 0.4, 0.6, 0.8  |
| *Bst* 2.0 WarmStart DNA polymerase (U) | 6, 8, 10, 12  |
| Reaction time (min) | 30, 45, 60, 75, 90  |
| Xylenol orange (mM) | 0.03, 0.06, 0.09, 0.12  |

**Table S2** Design of parameter optimization in LAMP-XO assay