

| Parameter Name | Simulation Conditions | | |
|---|-----------------------|---|---------------------|
| | Normal | Dye-bias | Noisy |
| Probe Mean Intensity, u_{ij} | 3000 | 3000 | 3000 |
| Probe Intensity CV | 0.7 | 0.7 | 0.7 |
| Deposition Gain, d_j | 1 | 2 | 2 |
| Labeling Efficiency, l_i | 1 | 2 | 2 |
| Red Channel non-linear conditioning parameter (randomly switching with two conditioning vectors) | [0, 50, -1, 1, 1] | [0, 50, -1, 1, 1], or [0, 200, -1, 1, 1] | [0, 50, -1, 1, 0.9] |
| Green Channel non-linear conditioning parameter | [0, 50, -1, 1, 1] | [0, 200, -1, 1, 1], or [0, 50, -1, 1, 1] | [0, 50, -1, 1, 1.1] |
| Background level, n_{ij} | 20 | 20 | 20 |
| Background CV | 0.1 | 0.1 | 0.1 |
| Mean Extraction Noise | 10 | 10 | 10 |
| Spot Size (pixels) | 100 | 100 | 100 |
| Red channel gain | 1 | 1 | 1 |
| Green channel gain | 1 | 2 | 1 |

Table S2. The parameter settings of aCGH Simulation for each condition. HMM was training for tumor copy number values, which were not listed here. Details of these parameters can be found in [Attor, 2004].