

## **Description of Additional Supplementary Files**

File Name: Supplementary Data 1

Description: ChAs Z-Scores and Log<sub>2</sub> O/E for the different sets of IBPs.

File Name: Supplementary Data 2

Description: List of sequences of primary Hi-M probes.

File Name: Supplementary Data 3

Description: List of primers for library amplification used in this study.

File Name: Supplementary Data 4

Description: List of genomic positions of the barcodes used in this study.

File Name: Supplementary Data 5

Description: List of sequence of imaging (io), adapter oligos and barcodes used in this study.

File Name: Supplementary Data 6

Description: List of publicly available data used in this study.