ChIP-on-Chip Software Comparison

Software	CoCAS	DNA Analytics[1]	TAS[2]	TiMAT[3]	MAT[4]
Operating System	Linux MacOS Windows	Linux MacOS Windows	Windows	Linux MacOS	Linux MacOS
Platform	Agilent	Agilent (using Agilent or GenePix scanner)	Affymetrix	Affymetrix Nimblegen	Affymetrix
Normalisation	Median Loess Quantile VSN Linear Correction & Loess	Median Loess Quantile	Median Quantile	CelProcessor	Probe Standardisation Quantile
Dye Swap Handling	Yes	Yes	No	No	No
Maximum Number of Slides	No limit (depends on computer specifications)	No limit (depends on computer specifications)	No limit (depends on computer specifications)	No limit (depends on computer specifications)	No limit (depends on computer specifications)
Output Format	BED GFF SGR Splitter	Proprietary	BED	GFF SGR	BAR BED
Graphical Interface Workflow	Yes	Yes	Yes	No	No
Licence	Academic	Commercial	Academic	Academic	Academic

Supplementary Table 1: Computing and bioinformatical characteristics of CoCAS as compared with existing ChIP-on-chip analysis applications. Although primarily designed for the Agilent platform, CoCAS presents more flexible normalisation methods and output formats, as well as other functions provided by most programs; no limit on the number of slides in the case of multiple array designs. In terms of computing speed, CoCAS performs a standard 244K one-chip analysis with loess in 2 min 45 s on an average computer (2Ghz Pentium Core 2 Duo, 2Gb RAM). DNA analytics, its commercial and sole competitor, does perform the same analysis in 2 min 15 s on the same computer. However, CoCAS does spend extra processing time writing several output files that are readable in most genome browsers, whereas DNA Analytics does not. Moreover, in the case of microarray replicates, CoCAS spends longer working out correlation, as opposed to DNA Analytics, which does not.

References:
[1] DNA Analytics : http://www.chem.agilent.com/en-US/Products/Instruments/dnamicroarrays/dnaanalyticssoftware/Pages/default.aspx
[2] TAS : http://www.affymetrix.com/partners_programs/programs/developer/TilingArrayTools/index.affx
[3] TiMAT : http://bdtnp.lbl.gov/TiMAT/
[4] MAT : http://liulab.dfci.harvard.edu/MAT/