

Growth rate estimates versus sampling frequency

Additional file 3 for “*Quantifying Differences in Cell Line Population Dynamics Using CellPD*”

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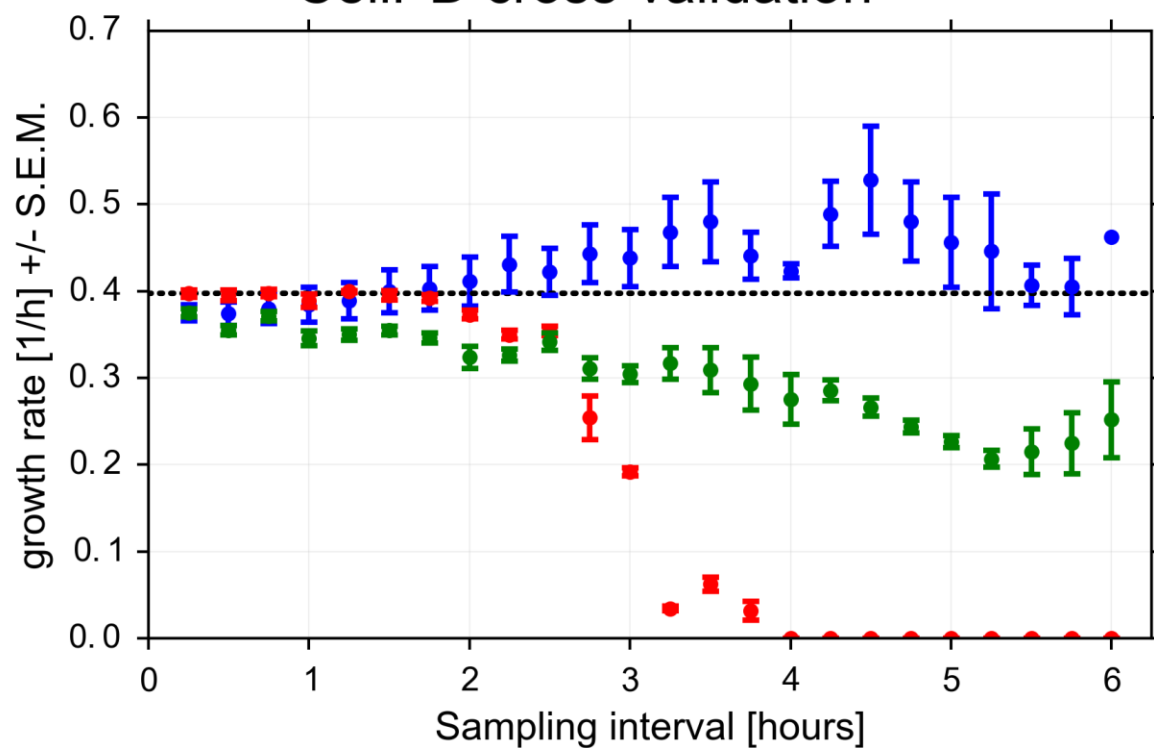
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CellPD cross-validation



..... Ground truth ● CellPD ■ cellGrowth ● Excel

Figure S3-1: Growth rate estimates versus sampling frequency.

Growth rates \pm Standard error of the mean (S.E.M) of Yeast strain seg_07A grown in YPD media computed by cellGrowth (red), Excel (green) and CellPD (blue) using different sampling intervals (which correspond to different number of sampling time points). All three tools correctly estimated the maximum growth rate for high sampling rates. For large sampling intervals (approximately 3 hours which corresponds to less than 10 samples), the three tools become less accurate; cellGrowth lacks the necessary number of data points to perform data smoothing, Excel becomes inaccurate, but CellPD continues to estimate reasonable growth rates. Even at the limit case of only 3 sampled data points (a sampling interval of 6 hours), CellPD provides a reasonable estimate (although it can no longer estimate S.E.M of the parameter).