Supplementary Material

Mechanistic inferences from analysis of measurements of protein phase transitions in live cells

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Figure S1: The sum of two Gaussian fits to the 1D histogram of $\Omega_{\text{FRET}}$ for each expression level slice and the corresponding fraction assembled profiles extracted from these fits for the five synthetic DAmFRET histograms shown in Figure 2. Displayed are: Panel A (One-State: No Assembly); Panel B (One-State: All Assembled); Panel C (Two-State: Discontinuous); Panel D (Two-State: Continuous); and Panel E (Three-State: Discontinuous). Each column shows the fits to the 1D histogram of $\Omega_{\text{FRET}}$ for a different expression level slice.
Figure S2: Synthetic DAmFRET histograms sorted by their classification. The five classes are: assembled at all expression levels (black class), no assembly at all expression levels (blue class), two-state discontinuous transition (green class), higher order state transition (magenta class), and two-state continuous transition (red class). The number in the top right-hand corner of each histogram indicates the confidence score of the classification. Each histogram is titled according to Table S3 which describes the parameters used to generate the given synthetic histogram.
Assembled at all expression levels (black) [ 1 of 4 ]

| Y02LA1 | X01HA1 | X02LB2 | X02LB3 | Y02LA2 |
|--------|--------|--------|--------|--------|
| ![Graph](image1.png) | ![Graph](image2.png) | ![Graph](image3.png) | ![Graph](image4.png) | ![Graph](image5.png) |

| X01HA2 | X02LB1 | X01HA3 | Y02LA3 | X02HA1 |
|--------|--------|--------|--------|--------|
| ![Graph](image6.png) | ![Graph](image7.png) | ![Graph](image8.png) | ![Graph](image9.png) | ![Graph](image10.png) |

| X02HA2 | X02HA3 | X02LC2 | Y02HA1 | X02LC3 |
|--------|--------|--------|--------|--------|
| ![Graph](image11.png) | ![Graph](image12.png) | ![Graph](image13.png) | ![Graph](image14.png) | ![Graph](image15.png) |

Log_{10}(Expression)
Assembled at all expression levels (black) [ 3 of 4 ]
Assembled at all expression levels (black) [4 of 4]
No assembly at all expression levels (blue) [ 1 of 2 ]
No assembly at all expression levels (blue)
Two-state discontinuous transition (green) [1 of 9]
Two-state discontinuous transition (green)
Two-state discontinuous transition (green) [ 6 of 9 ]

AmFRET vs Log10(Expression) for:
- Y10VC1
- Y08HC2
- Y06HA2
- Y10VC3
- Y06UC1
- Y04LC1
- Y04UA1
- Y10VC2
- Y06LA1
- Y06HA3
- Y08HC1
- Y08UA1
- Y04HB1
- Y10LB1
- Y08LC1

Values shown are:
- Y10VC1: 0.464
- Y08HC2: 0.908
- Y06HA2: 0.540
- Y10VC3: 0.520
- Y06UC1: 0.869
- Y04LC1: 0.373
- Y04UA1: 0.539
- Y10VC2: 0.463
- Y06LA1: 0.520
- Y06HA3: 0.546
- Y08HC1: 0.916
- Y08UA1: 0.530
- Y04HB1: 0.820
- Y10LB1: 0.628
- Y08LC1: 0.919
Two-state discontinuous transition (green) [ 7 of 9 ]
Two-state discontinuous transition (green) [ 9 of 9 ]
Higher order state transition (magenta) [ 2 of 9 ]

Graphs showing the AmFRET values for different samples:

- **X10VC1**: 0.239
- **X10VB2**: 0.051
- **X10VB3**: 0.028
- **X10VB1**: 0.142
- **Z10VC2**: 0.241
- **Z08HB2**: 0.279
- **Z01HC1**: 0.157
- **Z08LB1**: 0.675
- **Z08HB1**: 0.082
- **Z08LB3**: 0.745
- **Z01HC3**: 0.250
- **Z01HC2**: 0.122
- **Z08LB2**: 0.560
- **Z06UC2**: 0.498
- **Z04LC2**: 0.390

The graphs are plotted against Log₁₀(Expression) on the x-axis and AmFRET on the y-axis.
Higher order state transition (magenta) [ 3 of 9 ]
Higher order state transition (magenta) [4 of 9]
Higher order state transition (magenta) [ 5 of 9 ]

[Graph showing scatter plots with AmFRET values and Log10(Expression) for different samples.

Samples include:
- Z06HA2
- Z01HB2
- Z08UA3
- Z08LC2
- Z04LB2
- Z06UB2
- Z04HC1
- Z02HB1
- Z06UB3
- Z04LB3
- Z04LB1
- Z06UB1
- Z02HB3
- Z04HC3
- Z04HC2]
Higher order state transition (magenta) [ 7 of 9 ]
Higher order state transition (magenta) [ 9 of 9 ]
Two-state continuous transition (red) [2 of 6]

AmFRET

X04LB2  0.081
X06UB2  0.460
X10VA1  0.224
X08LB2  0.421
X08HA3  0.637

X06HC1  0.051
X08HA2  0.677
X08LB3  0.471
X08LB1  0.466
X06HC3  0.021

X08HA1  0.682
X04UA1  0.549
X06LA1  0.677
X04HA1  0.583
X06UC1  0.101
Two-state continuous transition (red) [3 of 6]

AmFRET vs. Log$_{10}$(Expression) for different samples:

- **X04UA2**: 0.612
- **X06LA2**: 0.676
- **X04HA2**: 0.575
- **X06UC3**: 0.085
- **X04HA3**: 0.624
- **X06UC2**: 0.024
- **X06LA3**: 0.670
- **X04UA3**: 0.623
- **X08LA3**: 0.643
- **X06LA2**: 0.646
- **X08UC2**: 0.198
- **X08HB2**: 0.436
- **X08HB3**: 0.440
- **X08UC3**: 0.157
- **X08LA2**: 0.646
- **X08UC1**: 0.301
Two-state continuous transition (red) [ 4 of 6 ]

- **X08HB1**
  - AmFRET: 0.465

- **X08LA1**
  - AmFRET: 0.668

- **X06LB1**
  - AmFRET: 0.396

- **X04UB1**
  - AmFRET: 0.095

- **X04HB1**
  - AmFRET: 0.089

- **X10HA2**
  - AmFRET: 0.249

- **X04HB3**
  - AmFRET: 0.076

- **X04UB3**
  - AmFRET: 0.062

- **X06LB3**
  - AmFRET: 0.397

- **X06LB2**
  - AmFRET: 0.405

- **X04UB2**
  - AmFRET: 0.070

- **X04HB2**
  - AmFRET: 0.064

- **X10HA3**
  - AmFRET: 0.213

- **X10LA2**
  - AmFRET: 0.244

- **X08HC2**
  - AmFRET: 0.235
Two-state continuous transition (red) [ 5 of 6 ]

AmFRET vs Log₁₀(Expression) for different proteins:
- **X08UB2**: AmFRET = 0.468
- **X08UB3**: AmFRET = 0.446
- **X08HC3**: AmFRET = 0.215
- **X10LA3**: AmFRET = 0.170
- **X06HA1**: AmFRET = 0.665
- **X06HA3**: AmFRET = 0.701
- **X10LA1**: AmFRET = 0.262
- **X08HC1**: AmFRET = 0.283
- **X08UB1**: AmFRET = 0.447
- **X06HA2**: AmFRET = 0.677
- **X06UA1**: AmFRET = 0.672
- **X04LA1**: AmFRET = 0.588
- **X06LC1**: AmFRET = 0.052
- **X06UA2**: AmFRET = 0.691
- **X04LA2**: AmFRET = 0.579
Two-state continuous transition (red) [6 of 6]

AmFRET

Log_{10}(Expression)

X06LC3

0.028

X06LC2

0.028

X04LA3

0.578

X06UA3

0.677

Z01HA1

0.622

Z02HA1

0.537
Figure S3: Classification of synthetic DAmFRET histograms without shading by confidence score. Each row denotes a different replica. Each column is denoted by the $\log_{10}(c_{50})$ (1.0, 2.0, 4.0, 6.0, 8.0, 10.0, or 12.0), the function (Sigmoid, Step, or 2 Step), and the noise level (Low, Medium, or High) used to generate the synthetic DAmFRET histograms.
Figure S4: DAmFRET histograms for each cPrD sorted by their PAPA score. The border of each histogram is colored by its classification. The following classifications are used: assembled at all expression levels (black); no assembly at all expression levels (blue); continuous two-state transition (red); discontinuous two-state transition (green); higher order state transition (magenta); and infrequent transition (yellow). Also displayed in the inset of each profile is the confidence score of its classification. Although the full profile is plotted, our method utilizes a low cutoff of 1.5 and a high cutoff at 5.0 in log_{10}(Expression) in our analysis pipeline to reduce the noise contributions at the extrema.
The image shows a series of scatter plots for different replicates of gene expression measurements. Each subplot contains a scatter plot with the x-axis labeled as $\log_{10}(\text{Expression})$ and the y-axis labeled as AmF5ET, R, or HplLFDtH. The plots are for different replicates labeled as YCK1, CLA4, NRD1, HRR25, and CAF40. The correlation coefficients for each replicate are indicated, with values ranging from 0.998 to 1.000.
SWI1 replicate 1: 0.130
SWI1 replicate 2: 0.285
SWI1 replicate 3: 0.577
SWI1 replicate 4: 0.284
AIM3 replicate 1: 0.181
AIM3 replicate 2: 0.282
AIM3 replicate 3: 0.285
AIM3 replicate 4: 0.165
PDR1 replicate 1: 0.852
PDR1 replicate 2: 0.706
PDR1 replicate 3: 0.676
PDR1 replicate 4: 0.931
AKL1 replicate 1: 1.000
AKL1 replicate 2: 1.000
AKL1 replicate 3: 1.000
AKL1 replicate 4: 0.853
KSP1 replicate 1: 0.520
KSP1 replicate 2: 0.597
KSP1 replicate 3: 0.055
KSP1 replicate 4: 0.708
Figure S5: Classification of DAmFRET histograms of 84 cPrDs previously examined by Alberti et al. without shading by confidence score. cPrDs are sorted by their PAPA scores shown in parentheses. Each column denotes a different experimental replicate.

| Protein | Confidence Score |
|---------|------------------|
| MED2    | -0.1416          |
| EP1L1   | -0.1315          |
| WWM1    | -0.1130          |
| SLT2    | -0.1121          |
| NAB2    | -0.1027          |
| YOK1    | -0.1019          |
| CLA4    | -0.0947          |
| NRD1    | -0.0836          |
| HRR25   | -0.0705          |
| CA4F0   | -0.0475          |
| SLA2    | -0.0445          |
| PIN3    | -0.0399          |
| SN3     | -0.0389          |
| SCD6    | -0.0288          |
| MCM1    | -0.0287          |
| POC2    | -0.0246          |
| YLR177W  | -0.0214         |
| YAH1    | -0.0163          |
| SNA2    | -0.0120          |
| EP31    | -0.0100          |
| GPR1    | -0.0062          |
| CYC8    | -0.0043          |
| RIM4    | -0.0007          |
| PUF4    | +0.0000          |
| SDO4    | +0.0010          |
| AZF1    | +0.0052          |
| NUP42   | +0.0063          |
| TIF4632  | +0.0100         |
| CCR4    | +0.0101          |
| VTS1    | +0.0147          |
| SGD1    | +0.0160          |
| SGO5    | +0.0231          |
| NSF1    | +0.0239          |
| NUP57   | +0.0250          |
| EN1T    | +0.0302          |
| ASG1    | +0.0307          |
| POP2    | +0.0310          |
| EN2T    | +0.0329          |
| SAP30   | +0.0359          |
| TAF12   | +0.0376          |
| PAN1    | +0.0391          |
| SGF73   | +0.0396          |
| YAPB201  | +0.0411          |
| GAL11   | +0.0412          |
| FSP1    | +0.0440          |
| PFCF1   | +0.0443          |
| RAT1    | +0.0457          |
| QST1    | +0.0497          |
| NAB3    | +0.0525          |
| MCA1    | +0.0552          |
| SWM1    | +0.0553          |
| AIM3    | +0.0564          |
| PDR1    | +0.0592          |
| AHP1    | +0.0599          |
| KGP1    | +0.0615          |
| SNSF5   | +0.0620          |
| NUP49   | +0.0681          |
| HRP1    | +0.0688          |
| SLM1    | +0.0705          |
| SKG3    | +0.0720          |
| UPC2    | +0.0722          |
| PUF2    | +0.0768          |
| PUG1    | +0.0784          |
| RL1M1   | +0.0803          |
| NUP11B  | +0.0850          |
| DEF1    | +0.0945          |
| SCD5    | +0.0946          |
| OLN3    | +0.0969          |
| ASM4    | +0.0972          |
| YBIL081W  | +0.1001        |
| SOK2    | +0.1006          |
| CKB1    | +0.1028          |
| URE2    | +0.1031          |
| NGR1    | +0.1045          |
| LSM4    | +0.1177          |
| JSM1    | +0.1187          |
| MRN1    | +0.1285          |
| YBR016W  | +0.1375          |
| NEV1    | +0.1398          |
| NUP100  | +0.1431          |
| NRP1    | +0.1478          |
| PUB1    | +0.1551          |
| RBS1    | +0.1617          |
| CLG1    | +0.1777          |

Legend:
- Assembled at all expression levels
- No assembly at all expression levels
- Two-state continuous transition
- Two-state discontinuous transition
- Higher order state transition
- Infrequent transition
Figure S6: Correlation between amino acid frequency and degree of discontinuity for all 20 amino acids and all 23 cPrDs classified as undergoing a two-state transition. Each point corresponds to an experimental replicate. The color of each point denotes the degree of discontinuity of the transition. Numbers indicate the Pearson r-values used to quantify positive or negative correlations.
Figure S7: Distribution of the number of individual cell measurements collected for the set of 94 cPrDs from the Alberti et al. dataset. Bin widths were set to 5,000.
The Shannon Entropy was used to identify a suitable range of acceptable grid sizes that could be applied across an entire collection of DAmFRET data. To determine an acceptable grid size which could be applied across a majority of replicates for subsequent analysis, we examined the information density quantified by the Shannon Entropy, $S = - \sum_{i=1}^{n_x} \sum_{j=1}^{n_y} p_{ij} \log p_{ij}$, and its change as a function of increasing grid size, on a subset of replicates. We identified 6 replicates with the following cell measurements: $1 \times 10^4$, $2 \times 10^4$, $5 \times 10^4$, $8 \times 10^4$, $10 \times 10^4$, and $12 \times 10^4$ as these adequately sample the range in the number of cell measurements within the extrema. Each grid is generated from a sum-normalized 2D histogram of each replicate along the x-axis (Expression) and y-axis (AmFRET / Expression i.e. $\Omega_{FRET}$), which is binned into the same number of $n_x$ and $n_y$ bins. Asymmetric grid sizes were not chosen.

In (A), as the grid size increases, the Shannon Entropy increases in a logarithmic fashion until it reaches a maximum that is dependent on the dataset size. As this change is non-linear, the turning points along each curve define lower and upper limits for possible grid sizes for replicates with a similar number of cell measurements. The location of the second turning point along the x-axis in which the entropy approaches its maximum defines an upper range in grid size as beyond that limit the information gained is minimized. Similarly, examining the location of the first turning point along each Shannon Entropy curve provides insight into the location of a lower limit of the grid size which can be applied on a given dataset. These insights, while informative, do not substantially narrow the range of possible grid sizes. Instead, by examining the numerical derivative of the Shannon Entropy curves as a function of grid size, we can better identify the grid sizes at which the information density change is maximized. However, as the entropy change can be positive or negative, we instead examine the absolute value of the numerical derivative of the Shannon Entropy curves, $|\Delta S|$. In (B), the peak of each absolute derivative curve $|\Delta S|$, identified by a grey line, indicates the grid size at which the information density gained or lost is maximized or minimized. Contextually, larger values in $|\Delta S|$ correspond to significant changes in sparsity of the grid at a given size. This suggests that beyond the peak, the information density gained or lost by increasing the sparsity of a grid is smaller overall. Hence, grid sizes chosen at or near to this value would be ideal.

For each replicate, the grid size corresponding to the maximum $|\Delta S|$ is different but not necessarily unique. In general, the replicates with lower cell measurements $\leq 8 \times 10^4$ peak at much smaller grid sizes, 46. The replicates with more cell measurements peak at grid sizes of 215 and 464. Thus, these values define an acceptable range of possible grid values which could be applied across all replicates.

However, any grid size chosen is mediated by being able to distinguish features within the grids. Grids generated at the grid size corresponding to the smallest grid size peak (46) produce featureless representations, while grids generated at the larger grid sizes (215 and 464) are more featureful and sparse. As we desire to better distinguish inherent features within the landscapes, values closer to the peak at the largest grid size is more ideal.

Thus, we chose a grid size of 300×300 as it can be applied to replicates with at least 5×10^4 cell measurements and is more featureful. Most of the replicates contain cell measurements above that
number. Given that replicates at lower counts tend to experience significant $|\Delta S|$ loss at the 300×300 grid size, any subsequent analysis may be impaired. Hence, we excluded cPrDs with replicates $<2\times10^4$ cell measurements from our analysis. The cPrDs that fell below this threshold are: PEX13, TIF4631, NPL3, RGT1, PSP2, YAP1802, SLA1, MOT3, DDR48, and SFP1.
Table S1: Synthetic Data Classifications. Noise 1 implies low noise, Noise 2 implies medium noise, and Noise 3 implies high noise. Saturation denotes how points were added to the dataset and Confidence-Score denotes how confident we are in the classification. These variables are described in the Materials and Methods.
| log10(c50) | Generating-Function | Replicate | Saturation | Noise-Profile | Classification | Confidence-Score |
|------------|---------------------|-----------|------------|---------------|----------------|------------------|
| 1          | 3 State             | 1         | High       | Noise 1       | Higher order state transition (magenta) | 0.621546 |
| 1          | 3 State             | 2         | High       | Noise 1       | Higher order state transition (magenta) | 0.302117 |
| 1          | 3 State             | 3         | High       | Noise 1       | Higher order state transition (magenta) | 0.384786 |
| 1          | 3 State             | 1         | High       | Noise 2       | Higher order state transition (magenta) | 0.274063 |
| 1          | 3 State             | 2         | High       | Noise 2       | Higher order state transition (magenta) | 0.108933 |
| 1          | 3 State             | 3         | High       | Noise 2       | Higher order state transition (magenta) | 0.236509 |
| 1          | 3 State             | 1         | High       | Noise 3       | Higher order state transition (magenta) | 0.157181 |
| 1          | 3 State             | 2         | High       | Noise 3       | Higher order state transition (magenta) | 0.121959 |
| 1          | 3 State             | 3         | High       | Noise 3       | Higher order state transition (magenta) | 0.250389 |
| 2          | 3 State             | 1         | High       | Noise 1       | Higher order state transition (magenta) | 0.536798 |
| 2          | 3 State             | 2         | High       | Noise 1       | Higher order state transition (magenta) | 0.49149 |
| 2          | 3 State             | 3         | High       | Noise 1       | Higher order state transition (magenta) | 0.655625 |
| 2          | 3 State             | 1         | High       | Noise 2       | Higher order state transition (magenta) | 0.623963 |
| 2          | 3 State             | 2         | High       | Noise 2       | Higher order state transition (magenta) | 0.5088 |
| 2          | 3 State             | 3         | High       | Noise 2       | Higher order state transition (magenta) | 0.427051 |
| 2          | 3 State             | 1         | High       | Noise 3       | Higher order state transition (magenta) | 0.215512 |
| 2          | 3 State             | 2         | High       | Noise 3       | Higher order state transition (magenta) | 0.153058 |
| 2          | 3 State             | 3         | High       | Noise 3       | Higher order state transition (magenta) | 0.0699569 |
| 4          | 3 State             | 1         | High       | Noise 1       | Higher order state transition (magenta) | 0.622594 |
| 4          | 3 State             | 2         | High       | Noise 1       | Higher order state transition (magenta) | 0.702502 |
| 4          | 3 State             | 3         | High       | Noise 1       | Higher order state transition (magenta) | 0.702645 |
| 4          | 3 State             | 1         | High       | Noise 2       | Higher order state transition (magenta) | 0.617313 |
| 4          | 3 State             | 2         | High       | Noise 2       | Higher order state transition (magenta) | 0.493173 |
| 4          | 3 State             | 3         | High       | Noise 2       | Higher order state transition (magenta) | 0.604476 |
| 4          | 3 State             | 1         | High       | Noise 3       | Higher order state transition (magenta) | 0.320242 |
| 4          | 3 State             | 2         | High       | Noise 3       | Higher order state transition (magenta) | 0.301434 |
| 4          | 3 State             | 3         | High       | Noise 3       | Higher order state transition (magenta) | 0.10474 |
| 4          | 3 State             | 1         | Low        | Noise 1       | Higher order state transition (magenta) | 0.642313 |
| 4          | 3 State             | 2         | Low        | Noise 1       | Higher order state transition (magenta) | 0.658769 |
| 4          | 3 State             | 3         | Low        | Noise 1       | Higher order state transition (magenta) | 0.698815 |
| 4          | 3 State             | 1         | Low        | Noise 2       | Higher order state transition (magenta) | 0.577048 |
| 4          | 3 State             | 2         | Low        | Noise 2       | Higher order state transition (magenta) | 0.619435 |
| log10(c50) | Generating-Function | Replicate | Saturation | Noise-Profile | Classification | Confidence-Score |
|-----------|---------------------|-----------|------------|---------------|----------------|------------------|
| 4         | 3 State             | 3         | Low        | Noise 2       | Higher order state transition (magenta) | 0.619054        |
| 4         | 3 State             | 1         | Low        | Noise 3       | Higher order state transition (magenta) | 0.303053        |
| 4         | 3 State             | 2         | Low        | Noise 3       | Higher order state transition (magenta) | 0.389778        |
| 4         | 3 State             | 3         | Low        | Noise 3       | Higher order state transition (magenta) | 0.346246        |
| 4         | 3 State             | 1         | Uniform 1  | Noise 1       | Higher order state transition (magenta) | 0.653063        |
| 4         | 3 State             | 2         | Uniform 1  | Noise 1       | Higher order state transition (magenta) | 0.638787        |
| 4         | 3 State             | 3         | Uniform 1  | Noise 1       | Higher order state transition (magenta) | 0.700642        |
| 4         | 3 State             | 1         | Uniform 1  | Noise 2       | Higher order state transition (magenta) | 0.638101        |
| 4         | 3 State             | 2         | Uniform 1  | Noise 2       | Higher order state transition (magenta) | 0.648085        |
| 4         | 3 State             | 3         | Uniform 1  | Noise 2       | Higher order state transition (magenta) | 0.606547        |
| 4         | 3 State             | 1         | Uniform 1  | Noise 3       | Higher order state transition (magenta) | 0.320728        |
| 4         | 3 State             | 2         | Uniform 1  | Noise 3       | Higher order state transition (magenta) | 0.309023        |
| 4         | 3 State             | 3         | Uniform 1  | Noise 3       | Higher order state transition (magenta) | 0.299869        |
| 6         | 3 State             | 1         | High       | Noise 1       | Higher order state transition (magenta) | 0.671944        |
| 6         | 3 State             | 2         | High       | Noise 1       | Higher order state transition (magenta) | 0.681096        |
| 6         | 3 State             | 3         | High       | Noise 1       | Higher order state transition (magenta) | 0.655612        |
| 6         | 3 State             | 1         | High       | Noise 2       | Higher order state transition (magenta) | 0.731309        |
| 6         | 3 State             | 2         | High       | Noise 2       | Higher order state transition (magenta) | 0.626682        |
| 6         | 3 State             | 3         | High       | Noise 2       | Higher order state transition (magenta) | 0.656763        |
| 6         | 3 State             | 1         | High       | Noise 3       | Higher order state transition (magenta) | 0.480278        |
| 6         | 3 State             | 2         | High       | Noise 3       | Higher order state transition (magenta) | 0.45685         |
| 6         | 3 State             | 3         | High       | Noise 3       | Higher order state transition (magenta) | 0.535074        |
| 6         | 3 State             | 1         | Low        | Noise 1       | Higher order state transition (magenta) | 0.666124        |
| 6         | 3 State             | 2         | Low        | Noise 1       | Higher order state transition (magenta) | 0.679163        |
| 6         | 3 State             | 3         | Low        | Noise 1       | Higher order state transition (magenta) | 0.635655        |
| 6         | 3 State             | 1         | Low        | Noise 2       | Higher order state transition (magenta) | 0.695505        |
| 6         | 3 State             | 2         | Low        | Noise 2       | Higher order state transition (magenta) | 0.737014        |
| 6         | 3 State             | 3         | Low        | Noise 2       | Higher order state transition (magenta) | 0.489918        |
| 6         | 3 State             | 1         | Low        | Noise 3       | Higher order state transition (magenta) | 0.458197        |
| 6         | 3 State             | 2         | Low        | Noise 3       | Higher order state transition (magenta) | 0.4259          |
| 6         | 3 State             | 3         | Low        | Noise 3       | Higher order state transition (magenta) | 0.391514        |
| 6         | 3 State             | 1         | Uniform 1  | Noise 1       | Higher order state transition (magenta) | 0.693316        |
| log10(c50) | Generating-Function | Replicate | Saturation | Noise-Profile | Classification | Confidence-Score |
|-----------|---------------------|-----------|------------|---------------|----------------|-----------------|
| 6         | 3 State             | 2         | Uniform 1  | Noise 1       | Higher order state transition (magenta) | 0.653983 |
| 6         | 3 State             | 3         | Uniform 1  | Noise 1       | Higher order state transition (magenta) | 0.677854 |
| 6         | 3 State             | 1         | Uniform 1  | Noise 2       | Higher order state transition (magenta) | 0.715761 |
| 6         | 3 State             | 2         | Uniform 1  | Noise 2       | Higher order state transition (magenta) | 0.700392 |
| 6         | 3 State             | 3         | Uniform 1  | Noise 2       | Higher order state transition (magenta) | 0.564828 |
| 6         | 3 State             | 1         | Uniform 1  | Noise 3       | Higher order state transition (magenta) | 0.479303 |
| 6         | 3 State             | 2         | Uniform 1  | Noise 3       | Higher order state transition (magenta) | 0.497872 |
| 6         | 3 State             | 3         | Uniform 1  | Noise 3       | Higher order state transition (magenta) | 0.44843  |
| 8         | 3 State             | 1         | High       | Noise 1       | Higher order state transition (magenta) | 0.132153 |
| 8         | 3 State             | 2         | High       | Noise 1       | Higher order state transition (magenta) | 0.330193 |
| 8         | 3 State             | 3         | High       | Noise 1       | Higher order state transition (magenta) | 0.0295417 |
| 8         | 3 State             | 1         | High       | Noise 2       | Higher order state transition (magenta) | 0.081692 |
| 8         | 3 State             | 2         | High       | Noise 2       | Two-state discontinuous transition (green) | 0.278568 |
| 8         | 3 State             | 3         | High       | Noise 2       | Two-state discontinuous transition (green) | 0.0117776 |
| 8         | 3 State             | 1         | High       | Noise 3       | Higher order state transition (magenta) | 0.459571 |
| 8         | 3 State             | 2         | High       | Noise 3       | Higher order state transition (magenta) | 0.269888 |
| 8         | 3 State             | 3         | High       | Noise 3       | Higher order state transition (magenta) | 0.190652 |
| 8         | 3 State             | 1         | Low        | Noise 1       | Higher order state transition (magenta) | 0.132774 |
| 8         | 3 State             | 2         | Low        | Noise 1       | Higher order state transition (magenta) | 0.0294251 |
| 8         | 3 State             | 3         | Low        | Noise 1       | Higher order state transition (magenta) | 0.248775 |
| 8         | 3 State             | 1         | Low        | Noise 2       | Higher order state transition (magenta) | 0.675253 |
| 8         | 3 State             | 2         | Low        | Noise 2       | Higher order state transition (magenta) | 0.560303 |
| 8         | 3 State             | 3         | Low        | Noise 2       | Higher order state transition (magenta) | 0.744742 |
| 8         | 3 State             | 1         | Low        | Noise 3       | Higher order state transition (magenta) | 0.515401 |
| 8         | 3 State             | 2         | Low        | Noise 3       | Higher order state transition (magenta) | 0.61651 |
| 8         | 3 State             | 3         | Low        | Noise 3       | Higher order state transition (magenta) | 0.416882 |
| 8         | 3 State             | 1         | Uniform 1  | Noise 1       | Higher order state transition (magenta) | 0.243616 |
| 8         | 3 State             | 2         | Uniform 1  | Noise 1       | Higher order state transition (magenta) | 0.327942 |
| 8         | 3 State             | 3         | Uniform 1  | Noise 1       | Higher order state transition (magenta) | 0.109243 |
| 8         | 3 State             | 1         | Uniform 1  | Noise 2       | Higher order state transition (magenta) | 0.172307 |
| 8         | 3 State             | 2         | Uniform 1  | Noise 2       | Higher order state transition (magenta) | 0.452379 |
| 8         | 3 State             | 3         | Uniform 1  | Noise 2       | Higher order state transition (magenta) | 0.606731 |
| log10(c50) | Generating-Function | Replicate | Saturation | Noise-Profile | Classification                                      | Confidence-Score |
|-----------|---------------------|-----------|------------|---------------|----------------------------------------------------|-----------------|
| 8         | 3 State             | 1         | Uniform 1  | Noise 3       | Higher order state transition (magenta)            | 0.412813        |
| 8         | 3 State             | 2         | Uniform 1  | Noise 3       | Higher order state transition (magenta)            | 0.292569        |
| 8         | 3 State             | 3         | Uniform 1  | Noise 3       | Higher order state transition (magenta)            | 0.341973        |
| 10        | 3 State             | 1         | Uniform 2  | Noise 1       | Two-state discontinuous transition (green)         | 0.160875        |
| 10        | 3 State             | 2         | Uniform 2  | Noise 1       | Two-state discontinuous transition (green)         | 0.41912         |
| 10        | 3 State             | 3         | Uniform 2  | Noise 1       | Two-state discontinuous transition (green)         | 0.458148        |
| 10         | 3 State             | 1         | Uniform 2  | Noise 2       | Higher order state transition (magenta)            | 0.558226        |
| 10        | 3 State             | 2         | Uniform 2  | Noise 2       | Higher order state transition (magenta)            | 0.0509299       |
| 10        | 3 State             | 3         | Uniform 2  | Noise 2       | Higher order state transition (magenta)            | 0.518843        |
| 10        | 3 State             | 1         | Uniform 2  | Noise 3       | Two-state discontinuous transition (green)         | 0.100431        |
| 10        | 3 State             | 2         | Uniform 2  | Noise 3       | Two-state discontinuous transition (green)         | 0.240856        |
| 10        | 3 State             | 3         | Uniform 2  | Noise 3       | Two-state discontinuous transition (green)         | 0.120229        |
| 12        | 3 State             | 1         | Uniform 2  | Noise 1       | Two-state discontinuous transition (green)         | 0.530231        |
| 12        | 3 State             | 2         | Uniform 2  | Noise 1       | Two-state discontinuous transition (green)         | 0.649674        |
| 12        | 3 State             | 3         | Uniform 2  | Noise 1       | Two-state discontinuous transition (green)         | 0.503427        |
| 12        | 3 State             | 1         | Uniform 2  | Noise 2       | Higher order state transition (magenta)            | 0.343287        |
| 12        | 3 State             | 2         | Uniform 2  | Noise 2       | Two-state discontinuous transition (green)         | 0.142396        |
| 12        | 3 State             | 3         | Uniform 2  | Noise 2       | Higher order state transition (magenta)            | 0.246489        |
| 12        | 3 State             | 1         | Uniform 2  | Noise 3       | Two-state discontinuous transition (green)         | 0.119629        |
| 12        | 3 State             | 2         | Uniform 2  | Noise 3       | Two-state discontinuous transition (green)         | 0.203664        |
| 12        | 3 State             | 3         | Uniform 2  | Noise 3       | Two-state discontinuous transition (green)         | 0.203691        |
| 1         | Sigmoid             | 1         | High       | Noise 1       | Assembled at all expression levels (black)         | 0.999998        |
| 1         | Sigmoid             | 2         | High       | Noise 1       | Assembled at all expression levels (black)         | 0.999997        |
| 1         | Sigmoid             | 3         | High       | Noise 1       | Assembled at all expression levels (black)         | 0.999679        |
| 1         | Sigmoid             | 1         | High       | Noise 2       | Assembled at all expression levels (black)         | 0.997261        |
| 1         | Sigmoid             | 2         | High       | Noise 2       | Assembled at all expression levels (black)         | 0.994899        |
| 1         | Sigmoid             | 3         | High       | Noise 2       | Assembled at all expression levels (black)         | 0.997667        |
| 1         | Sigmoid             | 1         | High       | Noise 3       | Assembled at all expression levels (black)         | 0.97836         |
| 1         | Sigmoid             | 2         | High       | Noise 3       | Assembled at all expression levels (black)         | 0.956675        |
| 1         | Sigmoid             | 3         | High       | Noise 3       | Assembled at all expression levels (black)         | 0.92511         |
| 2         | Sigmoid             | 1         | High       | Noise 1       | Assembled at all expression levels (black)         | 0.99999         |
| 2         | Sigmoid             | 2         | High       | Noise 1       | Assembled at all expression levels (black)         | 1               |
| log10(c50) | Generating-Function | Replicate | Saturation | Noise-Profile | Classification | Confidence-Score |
|------------|---------------------|-----------|------------|---------------|----------------|------------------|
| 2          | Sigmoid             | 3         | High       | Noise 1       | Assembled at all expression levels (black) | 0.999979        |
| 2          | Sigmoid             | 1         | High       | Noise 2       | Assembled at all expression levels (black) | 0.999996        |
| 2          | Sigmoid             | 2         | High       | Noise 2       | Assembled at all expression levels (black) | 0.993101        |
| 2          | Sigmoid             | 3         | High       | Noise 2       | Assembled at all expression levels (black) | 0.989398        |
| 2          | Sigmoid             | 1         | High       | Noise 3       | Assembled at all expression levels (black) | 0.96026         |
| 2          | Sigmoid             | 2         | High       | Noise 3       | Assembled at all expression levels (black) | 0.958562        |
| 2          | Sigmoid             | 3         | High       | Noise 3       | Assembled at all expression levels (black) | 0.917499        |
| 2          | Sigmoid             | 1         | Low        | Noise 1       | Assembled at all expression levels (black) | 0.999997        |
| 2          | Sigmoid             | 2         | Low        | Noise 1       | Assembled at all expression levels (black) | 0.999999        |
| 2          | Sigmoid             | 3         | Low        | Noise 1       | Assembled at all expression levels (black) | 0.995477        |
| 2          | Sigmoid             | 1         | Low        | Noise 2       | Assembled at all expression levels (black) | 0.996187        |
| 2          | Sigmoid             | 2         | Low        | Noise 2       | Assembled at all expression levels (black) | 0.986597        |
| 2          | Sigmoid             | 3         | Low        | Noise 2       | Assembled at all expression levels (black) | 0.940585        |
| 2          | Sigmoid             | 1         | Low        | Noise 3       | Assembled at all expression levels (black) | 0.976755        |
| 2          | Sigmoid             | 2         | Low        | Noise 3       | Assembled at all expression levels (black) | 0.965287        |
| 4          | Sigmoid             | 1         | High       | Noise 1       | Two-state continuous transition (red)      | 0.582868        |
| 4          | Sigmoid             | 2         | High       | Noise 1       | Two-state continuous transition (red)      | 0.57489         |
| 4          | Sigmoid             | 3         | High       | Noise 1       | Two-state continuous transition (red)      | 0.623844        |
| 4          | Sigmoid             | 1         | High       | Noise 2       | Two-state continuous transition (red)      | 0.088625        |
| 4          | Sigmoid             | 2         | High       | Noise 2       | Two-state continuous transition (red)      | 0.063604        |
| 4          | Sigmoid             | 3         | High       | Noise 2       | Two-state continuous transition (red)      | 0.0758606       |
| 4          | Sigmoid             | 1         | High       | Noise 3       | Two-state discontinuous transition (green)  | 0.328957        |
| 4          | Sigmoid             | 2         | High       | Noise 3       | Two-state discontinuous transition (green)  | 0.31025         |
| 4          | Sigmoid             | 3         | High       | Noise 3       | Two-state discontinuous transition (green)  | 0.348495        |
| 4          | Sigmoid             | 1         | Low        | Noise 1       | Two-state continuous transition (red)      | 0.587799        |
| 4          | Sigmoid             | 2         | Low        | Noise 1       | Two-state continuous transition (red)      | 0.579076        |
| 4          | Sigmoid             | 3         | Low        | Noise 1       | Two-state continuous transition (red)      | 0.578276        |
| 4          | Sigmoid             | 1         | Low        | Noise 2       | Two-state continuous transition (red)      | 0.0663032       |
| 4          | Sigmoid             | 2         | Low        | Noise 2       | Two-state continuous transition (red)      | 0.0814072       |
| 4          | Sigmoid             | 3         | Low        | Noise 2       | Two-state continuous transition (red)      | 0.0222756       |
| 4          | Sigmoid             | 1         | Low        | Noise 3       | Two-state discontinuous transition (green)  | 0.400209        |
| log10(c50) | Generating-Function | Replicate | Saturation | Noise-Profile | Classification | Confidence-Score |
|------------|---------------------|-----------|------------|---------------|----------------|-----------------|
| 4          | Sigmoid             | 2         | Low        | Noise 3       | Two-state discontinuous transition (green) | 0.320155 |
| 4          | Sigmoid             | 3         | Low        | Noise 3       | Two-state discontinuous transition (green) | 0.368697 |
| 4          | Sigmoid             | 1         | Uniform 1  | Noise 1       | Two-state continuous transition (red)     | 0.549374 |
| 4          | Sigmoid             | 2         | Uniform 1  | Noise 1       | Two-state continuous transition (red)     | 0.611786 |
| 4          | Sigmoid             | 3         | Uniform 1  | Noise 1       | Two-state continuous transition (red)     | 0.62269  |
| 4          | Sigmoid             | 1         | Uniform 1  | Noise 2       | Two-state continuous transition (red)     | 0.095308 |
| 4          | Sigmoid             | 2         | Uniform 1  | Noise 2       | Two-state continuous transition (red)     | 0.069509 |
| 4          | Sigmoid             | 3         | Uniform 1  | Noise 2       | Two-state continuous transition (red)     | 0.062330 |
| 4          | Sigmoid             | 1         | Uniform 1  | Noise 3       | Two-state discontinuous transition (green) | 0.373954 |
| 4          | Sigmoid             | 2         | Uniform 1  | Noise 3       | Two-state discontinuous transition (green) | 0.31774  |
| 4          | Sigmoid             | 3         | Uniform 1  | Noise 3       | Two-state discontinuous transition (green) | 0.349601 |
| 6          | Sigmoid             | 1         | High       | Noise 1       | Two-state continuous transition (red)     | 0.665029 |
| 6          | Sigmoid             | 2         | High       | Noise 1       | Two-state continuous transition (red)     | 0.677324 |
| 6          | Sigmoid             | 3         | High       | Noise 1       | Two-state continuous transition (red)     | 0.700741 |
| 6          | Sigmoid             | 1         | High       | Noise 2       | Two-state continuous transition (red)     | 0.36453  |
| 6          | Sigmoid             | 2         | High       | Noise 2       | Two-state continuous transition (red)     | 0.35235  |
| 6          | Sigmoid             | 3         | High       | Noise 2       | Two-state continuous transition (red)     | 0.415738 |
| 6          | Sigmoid             | 1         | High       | Noise 3       | Two-state continuous transition (red)     | 0.051451 |
| 6          | Sigmoid             | 2         | High       | Noise 3       | Two-state discontinuous transition (green) | 0.016909 |
| 6          | Sigmoid             | 3         | High       | Noise 3       | Two-state discontinuous transition (red)   | 0.021138 |
| 6          | Sigmoid             | 1         | Low        | Noise 1       | Two-state continuous transition (red)     | 0.676762 |
| 6          | Sigmoid             | 2         | Low        | Noise 1       | Two-state continuous transition (red)     | 0.675855 |
| 6          | Sigmoid             | 3         | Low        | Noise 1       | Two-state continuous transition (red)     | 0.669753 |
| 6          | Sigmoid             | 1         | Low        | Noise 2       | Two-state continuous transition (red)     | 0.39621  |
| 6          | Sigmoid             | 2         | Low        | Noise 2       | Two-state continuous transition (red)     | 0.405384 |
| 6          | Sigmoid             | 3         | Low        | Noise 2       | Two-state continuous transition (red)     | 0.397039 |
| 6          | Sigmoid             | 1         | Low        | Noise 3       | Two-state continuous transition (red)     | 0.052246 |
| 6          | Sigmoid             | 2         | Low        | Noise 3       | Two-state continuous transition (red)     | 0.028192 |
| 6          | Sigmoid             | 3         | Low        | Noise 3       | Two-state continuous transition (red)     | 0.027993 |
| 6          | Sigmoid             | 1         | Uniform 1  | Noise 1       | Two-state continuous transition (red)     | 0.671927 |
| 6          | Sigmoid             | 2         | Uniform 1  | Noise 1       | Two-state continuous transition (red)     | 0.690882 |
| 6          | Sigmoid             | 3         | Uniform 1  | Noise 1       | Two-state continuous transition (red)     | 0.676993 |
| log10(c50) | Generating-Function | Replicate | Saturation | Noise-Profile | Classification | Confidence-Score |
|------------|---------------------|-----------|------------|---------------|----------------|------------------|
| 6          | Sigmoid             | 1         | Uniform    | 1             | Noise 2        | Two-state continuous transition (red) | 0.382539 |
| 6          | Sigmoid             | 2         | Uniform    | 1             | Noise 2        | Two-state continuous transition (red) | 0.460024 |
| 6          | Sigmoid             | 3         | Uniform    | 1             | Noise 2        | Two-state continuous transition (red) | 0.382118 |
| 6          | Sigmoid             | 1         | Uniform    | 1             | Noise 3        | Two-state continuous transition (red) | 0.100853 |
| 6          | Sigmoid             | 2         | Uniform    | 1             | Noise 3        | Two-state continuous transition (red) | 0.0236738 |
| 6          | Sigmoid             | 3         | Uniform    | 1             | Noise 3        | Two-state continuous transition (red) | 0.0845262 |
| 8          | Sigmoid             | 1         | High       | 1             | Noise 1        | Two-state continuous transition (red) | 0.682486 |
| 8          | Sigmoid             | 2         | High       | 1             | Noise 1        | Two-state continuous transition (red) | 0.677143 |
| 8          | Sigmoid             | 3         | High       | 1             | Noise 1        | Two-state continuous transition (red) | 0.637041 |
| 8          | Sigmoid             | 1         | High       | 2             | Noise 2        | Two-state continuous transition (red) | 0.465439 |
| 8          | Sigmoid             | 2         | High       | 2             | Noise 2        | Two-state continuous transition (red) | 0.436313 |
| 8          | Sigmoid             | 3         | High       | 2             | Noise 2        | Two-state continuous transition (red) | 0.440201 |
| 8          | Sigmoid             | 1         | High       | 3             | Noise 3        | Two-state continuous transition (red) | 0.283482 |
| 8          | Sigmoid             | 2         | High       | 3             | Noise 3        | Two-state continuous transition (red) | 0.234956 |
| 8          | Sigmoid             | 3         | High       | 3             | Noise 3        | Two-state continuous transition (red) | 0.214676 |
| 8          | Sigmoid             | 1         | Low        | 1             | Noise 1        | Two-state continuous transition (red) | 0.668071 |
| 8          | Sigmoid             | 2         | Low        | 1             | Noise 1        | Two-state continuous transition (red) | 0.646335 |
| 8          | Sigmoid             | 3         | Low        | 1             | Noise 1        | Two-state continuous transition (red) | 0.643409 |
| 8          | Sigmoid             | 1         | Low        | 2             | Noise 2        | Two-state continuous transition (red) | 0.466111 |
| 8          | Sigmoid             | 2         | Low        | 2             | Noise 2        | Two-state continuous transition (red) | 0.411876 |
| 8          | Sigmoid             | 3         | Low        | 2             | Noise 2        | Two-state continuous transition (red) | 0.471386 |
| 8          | Sigmoid             | 1         | Low        | 3             | Noise 3        | Two-state continuous transition (red) | 0.223226 |
| 8          | Sigmoid             | 2         | Low        | 3             | Noise 3        | Two-state continuous transition (red) | 0.169346 |
| 8          | Sigmoid             | 3         | Low        | 3             | Noise 3        | Two-state continuous transition (red) | 0.188756 |
| 8          | Sigmoid             | 1         | Uniform    | 1             | Noise 1        | Two-state continuous transition (red) | 0.640101 |
| 8          | Sigmoid             | 2         | Uniform    | 1             | Noise 1        | Two-state continuous transition (red) | 0.64232 |
| 8          | Sigmoid             | 3         | Uniform    | 1             | Noise 1        | Two-state continuous transition (red) | 0.646699 |
| 8          | Sigmoid             | 1         | Uniform    | 1             | Noise 2        | Two-state continuous transition (red) | 0.446686 |
| 8          | Sigmoid             | 2         | Uniform    | 1             | Noise 2        | Two-state continuous transition (red) | 0.468282 |
| 8          | Sigmoid             | 3         | Uniform    | 1             | Noise 2        | Two-state continuous transition (red) | 0.446119 |
| 8          | Sigmoid             | 1         | Uniform    | 1             | Noise 3        | Two-state continuous transition (red) | 0.300605 |
| 8          | Sigmoid             | 2         | Uniform    | 1             | Noise 3        | Two-state continuous transition (red) | 0.197703 |
| log10(c50) | Generating-Function | Replicate | Saturation | Noise-Profile | Classification | Confidence-Score |
|-----------|---------------------|-----------|------------|---------------|----------------|-----------------|
| 8         | Sigmoid             | 3         | Uniform 1  | Noise 3       | Two-state continuous transition (red) | 0.156698        |
| 10        | Sigmoid             | 1         | High       | Noise 1       | Higher order state transition (magenta) | 0.065959        |
| 10        | Sigmoid             | 2         | High       | Noise 1       | Higher order state transition (magenta) | 0.248574        |
| 10        | Sigmoid             | 3         | High       | Noise 1       | Two-state continuous transition (red)   | 0.21258         |
| 10        | Sigmoid             | 1         | High       | Noise 2       | Higher order state transition (magenta) | 0.028059        |
| 10        | Sigmoid             | 2         | High       | Noise 2       | Higher order state transition (magenta) | 0.235942        |
| 10        | Sigmoid             | 3         | High       | Noise 2       | Higher order state transition (magenta) | 0.127148        |
| 10        | Sigmoid             | 1         | High       | Noise 3       | Higher order state transition (magenta) | 0.23705         |
| 10        | Sigmoid             | 2         | High       | Noise 3       | Two-state discontinuous transition (green) | 0.10443        |
| 10        | Sigmoid             | 3         | High       | Noise 3       | Higher order state transition (magenta) | 0.0217016       |
| 10        | Sigmoid             | 1         | Low        | Noise 1       | Two-state continuous transition (red)   | 0.261796        |
| 10        | Sigmoid             | 2         | Low        | Noise 1       | Two-state continuous transition (red)   | 0.243962        |
| 10        | Sigmoid             | 3         | Low        | Noise 1       | Two-state continuous transition (red)   | 0.170127        |
| 10        | Sigmoid             | 1         | Low        | Noise 2       | Higher order state transition (magenta) | 0.104578        |
| 10        | Sigmoid             | 2         | Low        | Noise 2       | Higher order state transition (magenta) | 0.00848424      |
| 10        | Sigmoid             | 3         | Low        | Noise 2       | Higher order state transition (magenta) | 0.0558006       |
| 10        | Sigmoid             | 1         | Low        | Noise 3       | Higher order state transition (magenta) | 0.223217        |
| 10        | Sigmoid             | 2         | Low        | Noise 3       | Higher order state transition (magenta) | 0.0550116       |
| 10        | Sigmoid             | 3         | Low        | Noise 3       | Higher order state transition (magenta) | 0.0093684       |
| 10        | Sigmoid             | 1         | Uniform 2  | Noise 1       | Two-state continuous transition (red)   | 0.223953        |
| 10        | Sigmoid             | 2         | Uniform 2  | Noise 1       | Two-state continuous transition (red)   | 0.244822        |
| 10        | Sigmoid             | 3         | Uniform 2  | Noise 1       | Two-state continuous transition (red)   | 0.283781        |
| 10        | Sigmoid             | 1         | Uniform 2  | Noise 2       | Higher order state transition (magenta) | 0.14233         |
| 10        | Sigmoid             | 2         | Uniform 2  | Noise 2       | Higher order state transition (magenta) | 0.0513458       |
| 10        | Sigmoid             | 3         | Uniform 2  | Noise 2       | Higher order state transition (magenta) | 0.0281355       |
| 10        | Sigmoid             | 1         | Uniform 2  | Noise 3       | Higher order state transition (magenta) | 0.238799        |
| 10        | Sigmoid             | 2         | Uniform 2  | Noise 3       | Higher order state transition (magenta) | 0.116542        |
| 10        | Sigmoid             | 3         | Uniform 2  | Noise 3       | Higher order state transition (magenta) | 0.105537        |
| 12        | Sigmoid             | 1         | Uniform 2  | Noise 1       | Two-state discontinuous transition (green) | 0.0304707       |
| 12        | Sigmoid             | 2         | Uniform 2  | Noise 1       | No assembly at all expression levels (blue) | 0.999637        |
| 12        | Sigmoid             | 3         | Uniform 2  | Noise 1       | No assembly at all expression levels (blue) | 0.03979         |
| 12        | Sigmoid             | 1         | Uniform 2  | Noise 2       | No assembly at all expression levels (blue) | 0.999942        |
### Synthetic Datasets Classifications

| log10(c50) | Generating-Function | Replicate | Saturation | Noise-Profile | Classification | Confidence-Score |
|------------|---------------------|-----------|------------|---------------|----------------|------------------|
| 12         | Sigmoid             | 2         | Uniform 2  | Noise 2       | No assembly at all expression levels (blue) | 0.99986 |
| 12         | Sigmoid             | 3         | Uniform 2  | Noise 2       | No assembly at all expression levels (blue) | 0.996983 |
| 12         | Sigmoid             | 2         | Uniform 2  | Noise 3       | No assembly at all expression levels (blue) | 0.999466 |
| 1          | Step                | 1         | High       | Noise 1       | Assembled at all expression levels (black) | 0.999686 |
| 1          | Step                | 2         | High       | Noise 1       | Assembled at all expression levels (black) | 0.999982 |
| 1          | Step                | 3         | High       | Noise 1       | Assembled at all expression levels (black) | 0.999683 |
| 1          | Step                | 1         | High       | Noise 2       | Assembled at all expression levels (black) | 0.997853 |
| 1          | Step                | 2         | High       | Noise 2       | Assembled at all expression levels (black) | 0.999997 |
| 1          | Step                | 3         | High       | Noise 2       | Assembled at all expression levels (black) | 0.999989 |
| 1          | Step                | 1         | High       | Noise 3       | Assembled at all expression levels (black) | 0.94387 |
| 1          | Step                | 2         | High       | Noise 3       | Assembled at all expression levels (black) | 0.983098 |
| 1          | Step                | 3         | High       | Noise 3       | Assembled at all expression levels (black) | 0.993609 |
| 2          | Step                | 1         | High       | Noise 1       | Assembled at all expression levels (black) | 0.999684 |
| 2          | Step                | 2         | High       | Noise 1       | Assembled at all expression levels (black) | 0.999685 |
| 2          | Step                | 3         | High       | Noise 1       | Assembled at all expression levels (black) | 0.999687 |
| 2          | Step                | 1         | High       | Noise 2       | Assembled at all expression levels (black) | 0.999999 |
| 2          | Step                | 2         | High       | Noise 2       | Assembled at all expression levels (black) | 0.996139 |
| 2          | Step                | 3         | High       | Noise 2       | Assembled at all expression levels (black) | 0.99958 |
| 2          | Step                | 1         | High       | Noise 3       | Assembled at all expression levels (black) | 0.980209 |
| 2          | Step                | 2         | High       | Noise 3       | Assembled at all expression levels (black) | 0.985168 |
| 2          | Step                | 3         | High       | Noise 3       | Assembled at all expression levels (black) | 0.977156 |
| 2          | Step                | 1         | Low        | Noise 1       | Assembled at all expression levels (black) | 0.999686 |
| 2          | Step                | 2         | Low        | Noise 1       | Assembled at all expression levels (black) | 0.999684 |
| 2          | Step                | 3         | Low        | Noise 1       | Assembled at all expression levels (black) | 0.999685 |
| 2          | Step                | 1         | Low        | Noise 2       | Assembled at all expression levels (black) | 0.994105 |
| 2          | Step                | 2         | Low        | Noise 2       | Assembled at all expression levels (black) | 0.995933 |
| 2          | Step                | 3         | Low        | Noise 2       | Assembled at all expression levels (black) | 0.999732 |
| 2          | Step                | 1         | Low        | Noise 3       | Assembled at all expression levels (black) | 0.98579 |
| 2          | Step                | 2         | Low        | Noise 3       | Assembled at all expression levels (black) | 0.975905 |
| 2          | Step                | 3         | Low        | Noise 3       | Assembled at all expression levels (black) | 0.988926 |
| log10(c50) | Generating-Function | Replicate | Saturation | Noise-Profile | Classification                                      | Confidence-Score |
|------------|---------------------|-----------|------------|---------------|-----------------------------------------------------|------------------|
| 4          | Step                | 1         | High       | Noise 1       | Two-state discontinuous transition (green)           | 0.527439         |
| 4          | Step                | 2         | High       | Noise 1       | Two-state discontinuous transition (green)           | 0.549141         |
| 4          | Step                | 3         | High       | Noise 1       | Two-state discontinuous transition (green)           | 0.535265         |
| 4          | Step                | 1         | High       | Noise 2       | Two-state discontinuous transition (green)           | 0.819632         |
| 4          | Step                | 2         | High       | Noise 2       | Two-state discontinuous transition (green)           | 0.738042         |
| 4          | Step                | 3         | High       | Noise 2       | Two-state discontinuous transition (green)           | 0.842044         |
| 4          | Step                | 1         | High       | Noise 3       | Two-state discontinuous transition (green)           | 0.639317         |
| 4          | Step                | 2         | High       | Noise 3       | Two-state discontinuous transition (green)           | 0.6174           |
| 4          | Step                | 3         | High       | Noise 3       | Two-state discontinuous transition (green)           | 0.911071         |
| 4          | Step                | 1         | Low        | Noise 1       | Two-state discontinuous transition (green)           | 0.540014         |
| 4          | Step                | 2         | Low        | Noise 1       | Two-state discontinuous transition (green)           | 0.526254         |
| 4          | Step                | 3         | Low        | Noise 1       | Two-state discontinuous transition (green)           | 0.512421         |
| 4          | Step                | 1         | Low        | Noise 2       | Two-state discontinuous transition (green)           | 0.871783         |
| 4          | Step                | 2         | Low        | Noise 2       | Two-state discontinuous transition (green)           | 0.841139         |
| 4          | Step                | 3         | Low        | Noise 2       | Two-state discontinuous transition (green)           | 0.807766         |
| 4          | Step                | 1         | Low        | Noise 3       | Two-state discontinuous transition (green)           | 0.37312          |
| 4          | Step                | 2         | Low        | Noise 3       | Two-state discontinuous transition (green)           | 0.624564         |
| 4          | Step                | 3         | Low        | Noise 3       | Two-state discontinuous transition (green)           | 0.920083         |
| 4          | Step                | 1         | Uniform 1  | Noise 1       | Two-state discontinuous transition (green)           | 0.538637         |
| 4          | Step                | 2         | Uniform 1  | Noise 1       | Two-state discontinuous transition (green)           | 0.514547         |
| 4          | Step                | 3         | Uniform 1  | Noise 1       | Two-state discontinuous transition (green)           | 0.506274         |
| 4          | Step                | 1         | Uniform 1  | Noise 2       | Two-state discontinuous transition (green)           | 0.800145         |
| 4          | Step                | 2         | Uniform 1  | Noise 2       | Two-state discontinuous transition (green)           | 0.804407         |
| 4          | Step                | 3         | Uniform 1  | Noise 2       | Two-state discontinuous transition (green)           | 0.833043         |
| 4          | Step                | 1         | Uniform 1  | Noise 3       | Two-state discontinuous transition (green)           | 0.685381         |
| 4          | Step                | 2         | Uniform 1  | Noise 3       | Two-state discontinuous transition (green)           | 0.869528         |
| 4          | Step                | 3         | Uniform 1  | Noise 3       | Two-state discontinuous transition (green)           | 0.675083         |
| 6          | Step                | 1         | High       | Noise 1       | Two-state discontinuous transition (green)           | 0.49362          |
| 6          | Step                | 2         | High       | Noise 1       | Two-state discontinuous transition (green)           | 0.540372         |
| 6          | Step                | 3         | High       | Noise 1       | Two-state discontinuous transition (green)           | 0.546093         |
| 6          | Step                | 1         | High       | Noise 2       | Two-state discontinuous transition (green)           | 0.836041         |
| 6          | Step                | 2         | High       | Noise 2       | Two-state discontinuous transition (green)           | 0.850862         |
| log10(c50) | Generating-Function | Replicate | Saturation | Noise-Profile | Classification                                      | Confidence-Score |
|-----------|---------------------|-----------|------------|---------------|----------------------------------------------------|------------------|
| 6         | Step                | 3         | High       | Noise 2       | Two-state discontinuous transition (green)         | 0.833631         |
| 6         | Step                | 1         | High       | Noise 3       | Two-state discontinuous transition (green)         | 0.940245         |
| 6         | Step                | 2         | High       | Noise 3       | Two-state discontinuous transition (green)         | 0.896513         |
| 6         | Step                | 3         | High       | Noise 3       | Two-state discontinuous transition (green)         | 0.921404         |
| 6         | Step                | 1         | Low        | Noise 1       | Two-state discontinuous transition (green)         | 0.520163         |
| 6         | Step                | 2         | Low        | Noise 1       | Two-state discontinuous transition (green)         | 0.52087          |
| 6         | Step                | 3         | Low        | Noise 1       | Two-state discontinuous transition (green)         | 0.530269         |
| 6         | Step                | 1         | Low        | Noise 2       | Two-state discontinuous transition (green)         | 0.84703          |
| 6         | Step                | 2         | Low        | Noise 2       | Two-state discontinuous transition (green)         | 0.845815         |
| 6         | Step                | 3         | Low        | Noise 3       | Two-state discontinuous transition (green)         | 0.849417         |
| 6         | Step                | 1         | Low        | Noise 3       | Two-state discontinuous transition (green)         | 0.932094         |
| 6         | Step                | 2         | Low        | Noise 3       | Two-state discontinuous transition (green)         | 0.911229         |
| 6         | Step                | 3         | Low        | Noise 3       | Two-state discontinuous transition (green)         | 0.926136         |
| 6         | Step                | 1         | Uniform 1  | Noise 1       | Two-state discontinuous transition (green)         | 0.503459         |
| 6         | Step                | 2         | Uniform 1  | Noise 1       | Two-state discontinuous transition (green)         | 0.548664         |
| 6         | Step                | 3         | Uniform 1  | Noise 1       | Two-state discontinuous transition (green)         | 0.560756         |
| 6         | Step                | 1         | Uniform 1  | Noise 2       | Two-state discontinuous transition (green)         | 0.845126         |
| 6         | Step                | 2         | Uniform 1  | Noise 2       | Two-state discontinuous transition (green)         | 0.870816         |
| 6         | Step                | 3         | Uniform 1  | Noise 2       | Two-state discontinuous transition (green)         | 0.848562         |
| 6         | Step                | 1         | Uniform 1  | Noise 3       | Two-state discontinuous transition (green)         | 0.869073         |
| 6         | Step                | 2         | Uniform 1  | Noise 3       | Two-state discontinuous transition (green)         | 0.923083         |
| 6         | Step                | 3         | Uniform 1  | Noise 3       | Two-state discontinuous transition (green)         | 0.905966         |
| 8         | Step                | 1         | High       | Noise 1       | Two-state discontinuous transition (green)         | 0.552718         |
| 8         | Step                | 2         | High       | Noise 1       | Two-state discontinuous transition (green)         | 0.52334          |
| 8         | Step                | 3         | High       | Noise 1       | Two-state discontinuous transition (green)         | 0.524608         |
| 8         | Step                | 1         | High       | Noise 2       | Two-state discontinuous transition (green)         | 0.825563         |
| 8         | Step                | 2         | High       | Noise 2       | Two-state discontinuous transition (green)         | 0.854495         |
| 8         | Step                | 3         | High       | Noise 2       | Two-state discontinuous transition (green)         | 0.844215         |
| 8         | Step                | 1         | High       | Noise 3       | Two-state discontinuous transition (green)         | 0.916052         |
| 8         | Step                | 2         | High       | Noise 3       | Two-state discontinuous transition (green)         | 0.908063         |
| 8         | Step                | 3         | High       | Noise 3       | Two-state discontinuous transition (green)         | 0.909361         |
| 8         | Step                | 1         | Low        | Noise 1       | Two-state discontinuous transition (green)         | 0.566237         |
## Synthetic Datasets Classifications

| log10(c50) | Generating-Function | Replicate | Saturation | Noise-Profile | Classification | Confidence-Score |
|------------|---------------------|-----------|------------|---------------|----------------|------------------|
| 8          | Step                | 2         | Low        | Noise 1       | Two-state discontinuous transition (green) | 0.54619          |
| 8          | Step                | 3         | Low        | Noise 1       | Two-state discontinuous transition (green) | 0.53079          |
| 8          | Step                | 1         | Low        | Noise 2       | Two-state discontinuous transition (green) | 0.83522          |
| 8          | Step                | 2         | Low        | Noise 2       | Two-state discontinuous transition (green) | 0.869549         |
| 8          | Step                | 3         | Low        | Noise 2       | Two-state discontinuous transition (green) | 0.871142         |
| 8          | Step                | 1         | Low        | Noise 3       | Two-state discontinuous transition (green) | 0.918619         |
| 8          | Step                | 2         | Low        | Noise 3       | Two-state discontinuous transition (green) | 0.929365         |
| 8          | Step                | 3         | Low        | Noise 3       | Two-state discontinuous transition (green) | 0.938753         |
| 8          | Step                | 1         | Uniform 1  | Noise 1       | Two-state discontinuous transition (green) | 0.529859         |
| 8          | Step                | 2         | Uniform 1  | Noise 1       | Two-state discontinuous transition (green) | 0.609937         |
| 8          | Step                | 3         | Uniform 1  | Noise 1       | Two-state discontinuous transition (green) | 0.561395         |
| 8          | Step                | 1         | Uniform 1  | Noise 2       | Two-state discontinuous transition (green) | 0.864244         |
| 8          | Step                | 2         | Uniform 1  | Noise 2       | Two-state discontinuous transition (green) | 0.831551         |
| 8          | Step                | 3         | Uniform 1  | Noise 2       | Two-state discontinuous transition (green) | 0.853081         |
| 8          | Step                | 1         | Uniform 1  | Noise 3       | Two-state discontinuous transition (green) | 0.884264         |
| 8          | Step                | 2         | Uniform 1  | Noise 3       | Two-state discontinuous transition (green) | 0.900825         |
| 8          | Step                | 3         | Uniform 1  | Noise 3       | Two-state discontinuous transition (green) | 0.926658         |
| 10         | Step                | 1         | High       | Noise 1       | Two-state discontinuous transition (green) | 0.493287         |
| 10         | Step                | 2         | High       | Noise 1       | Two-state discontinuous transition (green) | 0.437141         |
| 10         | Step                | 3         | High       | Noise 1       | Two-state discontinuous transition (green) | 0.455513         |
| 10         | Step                | 1         | High       | Noise 2       | Two-state discontinuous transition (green) | 0.60051          |
| 10         | Step                | 2         | High       | Noise 2       | Two-state discontinuous transition (green) | 0.629702         |
| 10         | Step                | 3         | High       | Noise 2       | Two-state discontinuous transition (green) | 0.712188         |
| 10         | Step                | 1         | High       | Noise 3       | Two-state discontinuous transition (green) | 0.407975         |
| 10         | Step                | 2         | High       | Noise 3       | Two-state discontinuous transition (green) | 0.446893         |
| 10         | Step                | 3         | High       | Noise 3       | Two-state discontinuous transition (green) | 0.401275         |
| 10         | Step                | 1         | Low        | Noise 1       | Two-state discontinuous transition (green) | 0.510572         |
| 10         | Step                | 2         | Low        | Noise 1       | Two-state discontinuous transition (green) | 0.412006         |
| 10         | Step                | 3         | Low        | Noise 1       | Two-state discontinuous transition (green) | 0.408051         |
| 10         | Step                | 1         | Low        | Noise 2       | Two-state discontinuous transition (green) | 0.628384         |
| 10         | Step                | 2         | Low        | Noise 2       | Two-state discontinuous transition (green) | 0.508627         |
| 10         | Step                | 3         | Low        | Noise 2       | Two-state discontinuous transition (green) | 0.459173         |
### Synthetic Datasets Classifications

| $\log_{10}(c50)$ | Generating-Function | Replicate | Saturation | Noise-Profile | Classification | Confidence-Score |
|------------------|---------------------|-----------|------------|---------------|----------------|------------------|
| 10               | Step                | 1         | Low        | Noise 3       | Two-state discontinuous transition (green) | 0.399977         |
| 10               | Step                | 2         | Low        | Noise 3       | Two-state discontinuous transition (green) | 0.388248         |
| 10               | Step                | 3         | Low        | Noise 3       | Two-state discontinuous transition (green) | 0.523575         |
| 10               | Step                | 1         | Uniform 2  | Noise 1       | Two-state discontinuous transition (green) | 0.514575         |
| 10               | Step                | 2         | Uniform 2  | Noise 1       | Two-state discontinuous transition (green) | 0.444036         |
| 10               | Step                | 3         | Uniform 2  | Noise 1       | Two-state discontinuous transition (green) | 0.331044         |
| 10               | Step                | 1         | Uniform 2  | Noise 2       | Two-state discontinuous transition (green) | 0.565756         |
| 10               | Step                | 2         | Uniform 2  | Noise 2       | Two-state discontinuous transition (green) | 0.445484         |
| 10               | Step                | 3         | Uniform 2  | Noise 2       | Two-state discontinuous transition (green) | 0.77615          |
| 12               | Step                | 1         | Uniform 2  | Noise 1       | No assembly at all expression levels (blue) | 0.999983         |
| 12               | Step                | 2         | Uniform 2  | Noise 1       | No assembly at all expression levels (blue) | 1                |
| 12               | Step                | 3         | Uniform 2  | Noise 1       | No assembly at all expression levels (blue) | 0.999914         |
| 12               | Step                | 1         | Uniform 2  | Noise 2       | No assembly at all expression levels (blue) | 1                |
| 12               | Step                | 2         | Uniform 2  | Noise 2       | No assembly at all expression levels (blue) | 0.99994          |
| 12               | Step                | 3         | Uniform 2  | Noise 2       | No assembly at all expression levels (blue) | 1                |
| 12               | Step                | 1         | Uniform 2  | Noise 3       | Higher order state transition (magenta) | 0.00449382       |
| 12               | Step                | 2         | Uniform 2  | Noise 3       | No assembly at all expression levels (blue) | 1                |
| 12               | Step                | 3         | Uniform 2  | Noise 3       | No assembly at all expression levels (blue) | 1                |
Table S2: Classifications of the cPrDs. Here, $\log_{10}(c_{50})$ is only calculated for those DAmFRET histograms that show a transition. The “Confidence-Score” denotes how confident we are in each of the classifications as described in the Materials and Methods section.
| Gene  | Replicate | log10(c50) | Classification                                      | Confidence-Score |
|-------|-----------|------------|----------------------------------------------------|------------------|
| EPL1  | 1         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| EPL1  | 2         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| EPL1  | 3         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| EPL1  | 4         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| NRD1  | 1         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| NRD1  | 2         | N/A        | No assembly at all concentrations (Blue Class)     | 0.5437           |
| NRD1  | 3         | N/A        | No assembly at all concentrations (Blue Class)     | 0.80726          |
| NRD1  | 4         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| SLT2  | 1         | N/A        | No assembly at all concentrations (Blue Class)     | 0.99847          |
| SLT2  | 2         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| SLT2  | 3         | N/A        | No assembly at all concentrations (Blue Class)     | 0.99911          |
| SLT2  | 4         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| SAP30 | 1         | 4.89634    | Incomplete Transition (Yellow Class)               | 0.13802          |
| SAP30 | 2         | 4.45529    | Incomplete Transition (Yellow Class)               | 0.31665          |
| SAP30 | 3         | 4.14964    | No assembly at all concentrations (Blue Class)      | 1                |
| SAP30 | 4         | 4.55432    | No assembly at all concentrations (Blue Class)      | 1                |
| SCD6  | 1         | N/A        | No assembly at all concentrations (Blue Class)     | 0.99557          |
| SCD6  | 2         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| SCD6  | 3         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| SCD6  | 4         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| SKG6  | 1         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| SKG6  | 2         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| SKG6  | 3         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| SKG6  | 4         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| PDR1  | 1         | 3.9755     | Incomplete Transition (Yellow Class)               | 0.85186          |
| PDR1  | 2         | 3.93765    | Incomplete Transition (Yellow Class)               | 0.70634          |
| PDR1  | 3         | 3.90418    | Incomplete Transition (Yellow Class)               | 0.67611          |
| PDR1  | 4         | 4.04877    | Incomplete Transition (Yellow Class)               | 0.93098          |
| CLG1  | 1         | 3.21112    | No assembly at all concentrations (Blue Class)     | 1                |
| CLG1  | 2         | 2.96033    | No assembly at all concentrations (Blue Class)     | 1                |
| CLG1  | 3         | 3.0682     | Incomplete Transition (Yellow Class)               | 0.99026          |
| CLG1  | 4         | 3.32408    | Incomplete Transition (Yellow Class)               | 0.99539          |
| Gene  | Replicate | log10(c50) | Classification                                              | Confidence-Score |
|-------|-----------|------------|-------------------------------------------------------------|------------------|
| TAF12 | 1         | N/A        | No assembly at all concentrations (Blue Class)              | 1                |
| TAF12 | 2         | N/A        | No assembly at all concentrations (Blue Class)              | 1                |
| TAF12 | 3         | N/A        | No assembly at all concentrations (Blue Class)              | 1                |
| TAF12 | 4         | N/A        | No assembly at all concentrations (Blue Class)              | 1                |
| PIN3  | 1         | N/A        | No assembly at all concentrations (Blue Class)              | 1                |
| PIN3  | 2         | N/A        | No assembly at all concentrations (Blue Class)              | 1                |
| PIN3  | 3         | N/A        | No assembly at all concentrations (Blue Class)              | 0.98588          |
| PIN3  | 4         | N/A        | No assembly at all concentrations (Blue Class)              | 1                |
| MRN1  | 1         | 2.72915    | Discontinuous Transition (Green Class)                      | 0.08591          |
| MRN1  | 2         | 2.73075    | Continuous Transition (Red Class)                           | 0.05195          |
| MRN1  | 3         | 2.75452    | Continuous Transition (Red Class)                           | 0.33956          |
| MRN1  | 4         | 2.78835    | Continuous Transition (Red Class)                           | 0.09381          |
| RLM1  | 1         | 3.96469    | Incomplete Transition (Yellow Class)                        | 0.92604          |
| RLM1  | 2         | 3.8242     | Incomplete Transition (Yellow Class)                        | 0.84133          |
| RLM1  | 3         | 3.59836    | Incomplete Transition (Yellow Class)                        | 0.97448          |
| RLM1  | 4         | 3.62472    | Incomplete Transition (Yellow Class)                        | 0.97394          |
| RAT1  | 1         | N/A        | No assembly at all concentrations (Blue Class)              | 1                |
| RAT1  | 2         | N/A        | No assembly at all concentrations (Blue Class)              | 1                |
| RAT1  | 3         | 3.69647    | No assembly at all concentrations (Blue Class)              | 0.96488          |
| RAT1  | 4         | N/A        | No assembly at all concentrations (Blue Class)              | 1                |
| PDC2  | 1         | N/A        | No assembly at all concentrations (Blue Class)              | 0.99987          |
| PDC2  | 2         | N/A        | No assembly at all concentrations (Blue Class)              | 0.99962          |
| PDC2  | 3         | N/A        | No assembly at all concentrations (Blue Class)              | 1                |
| PDC2  | 4         | N/A        | No assembly at all concentrations (Blue Class)              | 1                |
| GLN3  | 1         | 2.67471    | Continuous Transition (Red Class)                           | 0.04627          |
| GLN3  | 2         | 2.65183    | Continuous Transition (Red Class)                           | 0.05413          |
| GLN3  | 3         | 2.61877    | Continuous Transition (Red Class)                           | 0.01888          |
| GLN3  | 4         | 2.68507    | Continuous Transition (Red Class)                           | 0.01034          |
| NEW1  | 1         | 2.31905    | Discontinuous Transition (Green Class)                      | 0.08652          |
| NEW1  | 2         | 2.18216    | Discontinuous Transition (Green Class)                      | 0.02195          |
| NEW1  | 3         | 2.21344    | Discontinuous Transition (Green Class)                      | 0.22294          |
| NEW1  | 4         | 2.26084    | Discontinuous Transition (Green Class)                      | 0.04384          |
| Gene   | Replicate | log10(c50) | Classification                                      | Confidence-Score |
|--------|-----------|------------|----------------------------------------------------|------------------|
| ASG1   | 1         | N/A        | Assembled at all concentrations (Black Class)      | 0.99982          |
| ASG1   | 2         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| ASG1   | 3         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| ASG1   | 4         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| PCF11  | 1         | 3.44441    | No assembly at all concentrations (Blue Class)     | 1                |
| PCF11  | 2         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| PCF11  | 3         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| PCF11  | 4         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| PUF4   | 1         | 4.49992    | No assembly at all concentrations (Blue Class)     | 1                |
| PUF4   | 2         | N/A        | No assembly at all concentrations (Blue Class)     | 0.94218          |
| PUF4   | 3         | N/A        | No assembly at all concentrations (Blue Class)     | 0.99755          |
| PUF4   | 4         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| KSP1   | 1         | 2.98527    | Incomplete Transition (Yellow Class)               | 0.51979          |
| KSP1   | 2         | 3.22157    | Incomplete Transition (Yellow Class)               | 0.59687          |
| KSP1   | 3         | 2.92111    | Discontinuous Transition (Green Class)             | 0.0548           |
| KSP1   | 4         | 3.08364    | Incomplete Transition (Yellow Class)               | 0.70802          |
| YAK1   | 1         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| YAK1   | 2         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| YAK1   | 3         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| YAK1   | 4         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| PUB1   | 1         | 2.91398    | Continuous Transition (Red Class)                  | 0.05802          |
| PUB1   | 2         | 2.75553    | Discontinuous Transition (Green Class)             | 0.14562          |
| PUB1   | 3         | 2.8276     | Discontinuous Transition (Green Class)             | 0.06111          |
| PUB1   | 4         | 2.89928    | Continuous Transition (Red Class)                  | 0.01423          |
| GTS1   | 1         | 2.10756    | Continuous Transition (Red Class)                  | 0.22661          |
| GTS1   | 2         | 2.21239    | Continuous Transition (Red Class)                  | 0.14278          |
| GTS1   | 3         | 2.17367    | Continuous Transition (Red Class)                  | 0.04612          |
| GTS1   | 4         | 2.09999    | Continuous Transition (Red Class)                  | 0.13173          |
| MED2   | 1         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| MED2   | 2         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| MED2   | 3         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| MED2   | 4         | N/A        | No assembly at all concentrations (Blue Class)     | 1                |
| Gene   | Replicate | log10(c50) | Classification                          | Confidence-Score |
|--------|-----------|-----------|-----------------------------------------|------------------|
| RIM4   | 1         | 3.12192   | Incomplete Transition (Yellow Class)    | 0.64586          |
| RIM4   | 2         | 3.02762   | Incomplete Transition (Yellow Class)    | 0.72864          |
| RIM4   | 3         | 2.9832    | Incomplete Transition (Yellow Class)    | 0.58787          |
| RIM4   | 4         | 3.11439   | Incomplete Transition (Yellow Class)    | 0.88375          |
| URE2   | 1         | 4.33175   | Incomplete Transition (Yellow Class)    | 0.98621          |
| URE2   | 2         | 4.24693   | Incomplete Transition (Yellow Class)    | 0.94034          |
| URE2   | 3         | 4.28272   | Incomplete Transition (Yellow Class)    | 0.99414          |
| URE2   | 4         | 4.21487   | Incomplete Transition (Yellow Class)    | 0.99087          |
| GAL11  | 1         | N/A       | No assembly at all concentrations (Blue Class) | 0.99988          |
| GAL11  | 2         | N/A       | No assembly at all concentrations (Blue Class) | 0.9626           |
| GAL11  | 3         | N/A       | No assembly at all concentrations (Blue Class) | 1               |
| GAL11  | 4         | N/A       | No assembly at all concentrations (Blue Class) | 1               |
| JSN1   | 1         | 3.14041   | Continuous Transition (Red Class)       | 0.00444          |
| JSN1   | 2         | 3.06694   | Incomplete Transition (Yellow Class)    | 0.17727          |
| JSN1   | 3         | 3.10638   | Incomplete Transition (Yellow Class)    | 0.26706          |
| JSN1   | 4         | 3.11342   | Incomplete Transition (Yellow Class)    | 0.34124          |
| SLA2   | 1         | N/A       | Assembled at all concentrations (Black Class) | 1               |
| SLA2   | 2         | N/A       | Incomplete Transition (Yellow Class)    | 0.02772          |
| SLA2   | 3         | 1.59391   | Continuous Transition (Red Class)       | 0.06914          |
| SLA2   | 4         | 2.73825   | No assembly at all concentrations (Blue Class) | 1               |
| YLR177W| 1         | N/A       | No assembly at all concentrations (Blue Class) | 1               |
| YLR177W| 2         | N/A       | No assembly at all concentrations (Blue Class) | 0.80456          |
| YLR177W| 3         | N/A       | No assembly at all concentrations (Blue Class) | 0.99989          |
| YLR177W| 4         | N/A       | No assembly at all concentrations (Blue Class) | 1               |
| WWM1   | 1         | N/A       | No assembly at all concentrations (Blue Class) | 1               |
| WWM1   | 2         | N/A       | No assembly at all concentrations (Blue Class) | 0.924            |
| WWM1   | 3         | N/A       | No assembly at all concentrations (Blue Class) | 1               |
| WWM1   | 4         | N/A       | No assembly at all concentrations (Blue Class) | 1               |
| SIN3   | 1         | 3.96607   | No assembly at all concentrations (Blue Class) | 1               |
| SIN3   | 2         | N/A       | No assembly at all concentrations (Blue Class) | 1               |
| SIN3   | 3         | N/A       | No assembly at all concentrations (Blue Class) | 0.62964          |
| SIN3   | 4         | N/A       | No assembly at all concentrations (Blue Class) | 0.98578          |
| Gene   | Replicate | log10(c50) | Classification                                      | Confidence-Score |
|--------|-----------|-----------|-----------------------------------------------------|------------------|
| CAF40  | 1         | N/A       | No assembly at all concentrations (Blue Class)       | 1                |
| CAF40  | 2         | N/A       | No assembly at all concentrations (Blue Class)       | 1                |
| CAF40  | 3         | N/A       | No assembly at all concentrations (Blue Class)       | 0.99927          |
| CAF40  | 4         | N/A       | No assembly at all concentrations (Blue Class)       | 1                |
| LSM4   | 1         | 2.88497   | Continuous Transition (Red Class)                    | 0.16361          |
| LSM4   | 2         | 2.80195   | Continuous Transition (Red Class)                    | 0.08323          |
| LSM4   | 3         | 2.87527   | Continuous Transition (Red Class)                    | 0.13479          |
| LSM4   | 4         | 2.92284   | Continuous Transition (Red Class)                    | 0.15809          |
| HRR25  | 1         | N/A       | No assembly at all concentrations (Blue Class)       | 1                |
| HRR25  | 2         | N/A       | No assembly at all concentrations (Blue Class)       | 1                |
| HRR25  | 3         | N/A       | No assembly at all concentrations (Blue Class)       | 1                |
| HRR25  | 4         | N/A       | No assembly at all concentrations (Blue Class)       | 1                |
| NRP1   | 1         | 2.7444    | Discontinuous Transition (Green Class)               | 0.26692          |
| NRP1   | 2         | 2.65568   | Discontinuous Transition (Green Class)               | 0.35043          |
| NRP1   | 3         | 2.60782   | Discontinuous Transition (Green Class)               | 0.54497          |
| NRP1   | 4         | 2.69772   | Discontinuous Transition (Green Class)               | 0.23052          |
| YBR016W| 1         | 4.31839   | Incomplete Transition (Yellow Class)                 | 0.97747          |
| YBR016W| 2         | 4.35962   | Incomplete Transition (Yellow Class)                 | 0.88839          |
| YBR016W| 3         | 4.52583   | Incomplete Transition (Yellow Class)                 | 0.97685          |
| YBR016W| 4         | 4.78696   | Incomplete Transition (Yellow Class)                 | 0.60306          |
| CCR4   | 1         | N/A       | No assembly at all concentrations (Blue Class)       | 0.81097          |
| CCR4   | 2         | N/A       | No assembly at all concentrations (Blue Class)       | 0.28548          |
| CCR4   | 3         | N/A       | No assembly at all concentrations (Blue Class)       | 0.95129          |
| CCR4   | 4         | N/A       | No assembly at all concentrations (Blue Class)       | 0.99248          |
| GPR1   | 1         | 4.15015   | Incomplete Transition (Yellow Class)                 | 0.76452          |
| GPR1   | 2         | 4.04825   | Incomplete Transition (Yellow Class)                 | 0.78389          |
| GPR1   | 3         | 3.99001   | Continuous Transition (Red Class)                    | 0.16833          |
| GPR1   | 4         | 4.08861   | Incomplete Transition (Yellow Class)                 | 0.76349          |
| ASM4   | 1         | 2.66528   | Discontinuous Transition (Green Class)               | 0.43844          |
| ASM4   | 2         | 2.66779   | Discontinuous Transition (Green Class)               | 0.32             |
| ASM4   | 3         | 2.56876   | Discontinuous Transition (Green Class)               | 0.12556          |
| ASM4   | 4         | 2.69419   | Discontinuous Transition (Green Class)               | 0.34481          |
| Gene  | Replicate | log10(c50) | Classification                                      | Confidence-Score |
|-------|-----------|------------|-----------------------------------------------------|------------------|
| YCK1  | 1         | N/A        | No assembly at all concentrations (Blue Class)      | 0.99813          |
| YCK1  | 2         | 4.14573    | No assembly at all concentrations (Blue Class)      | 1                |
| YCK1  | 3         | N/A        | No assembly at all concentrations (Blue Class)      | 1                |
| YCK1  | 4         | 5.56258    | No assembly at all concentrations (Blue Class)      | 1                |
| CLA4  | 1         | N/A        | No assembly at all concentrations (Blue Class)      | 1                |
| CLA4  | 2         | N/A        | No assembly at all concentrations (Blue Class)      | 1                |
| CLA4  | 3         | N/A        | No assembly at all concentrations (Blue Class)      | 1                |
| CLA4  | 4         | N/A        | No assembly at all concentrations (Blue Class)      | 0.98662          |
| TIF4632 | 1     | 3.4569     | No assembly at all concentrations (Blue Class)      | 1                |
| TIF4632 | 2     | 3.62353    | No assembly at all concentrations (Blue Class)      | 1                |
| TIF4632 | 3     | 5.41175    | No assembly at all concentrations (Blue Class)      | 1                |
| TIF4632 | 4     | 3.99629    | No assembly at all concentrations (Blue Class)      | 1                |
| MCA1  | 1         | 3.49122    | Continuous Transition (Red Class)                   | 0.56947          |
| MCA1  | 2         | 3.24386    | Continuous Transition (Red Class)                   | 0.46906          |
| MCA1  | 3         | 3.6103     | Continuous Transition (Red Class)                   | 0.33321          |
| MCA1  | 4         | 3.43038    | Continuous Transition (Red Class)                   | 0.65242          |
| POP2  | 1         | N/A        | No assembly at all concentrations (Blue Class)      | 0.98089          |
| POP2  | 2         | N/A        | No assembly at all concentrations (Blue Class)      | 1                |
| POP2  | 3         | 3.69219    | No assembly at all concentrations (Blue Class)      | 1                |
| POP2  | 4         | N/A        | No assembly at all concentrations (Blue Class)      | 1                |
| ENT2  | 1         | 4.03786    | Incomplete Transition (Yellow Class)                | 0.98559          |
| ENT2  | 2         | 3.90737    | Incomplete Transition (Yellow Class)                | 0.94646          |
| ENT2  | 3         | 3.92842    | Incomplete Transition (Yellow Class)                | 0.98292          |
| ENT2  | 4         | 4.31815    | Incomplete Transition (Yellow Class)                | 0.75218          |
| ENT1  | 1         | 3.72344    | Incomplete Transition (Yellow Class)                | 0.49747          |
| ENT1  | 2         | 3.65129    | Incomplete Transition (Yellow Class)                | 0.41638          |
| ENT1  | 3         | 3.81596    | Incomplete Transition (Yellow Class)                | 0.71046          |
| ENT1  | 4         | 3.88488    | Incomplete Transition (Yellow Class)                | 0.78601          |
| PUF2  | 1         | N/A        | Assembled at all concentrations (Black Class)       | 0.81628          |
| PUF2  | 2         | 1.02905    | Assembled at all concentrations (Black Class)       | 1                |
| PUF2  | 3         | 1.73897    | Continuous Transition (Red Class)                   | 0.29297          |
| PUF2  | 4         | N/A        | Assembled at all concentrations (Black Class)       | 1                |
| Gene  | Replicate | log10(c50) | Classification                                      | Confidence-Score |
|-------|-----------|------------|-----------------------------------------------------|------------------|
| NAB2  | 1         | N/A        | No assembly at all concentrations (Blue Class)      | 0.49827          |
| NAB2  | 2         | N/A        | No assembly at all concentrations (Blue Class)      | 1                |
| NAB2  | 3         | N/A        | No assembly at all concentrations (Blue Class)      | 0.9986           |
| NAB2  | 4         | N/A        | No assembly at all concentrations (Blue Class)      | 1                |
| SKG3  | 1         | N/A        | No assembly at all concentrations (Blue Class)      | 1                |
| SKG3  | 2         | N/A        | No assembly at all concentrations (Blue Class)      | 1                |
| SKG3  | 3         | N/A        | No assembly at all concentrations (Blue Class)      | 1                |
| SKG3  | 4         | N/A        | No assembly at all concentrations (Blue Class)      | 1                |
| UPC2  | 1         | 3.63474    | Incomplete Transition (Yellow Class)                | 0.98373          |
| UPC2  | 2         | 3.52171    | Incomplete Transition (Yellow Class)                | 0.98987          |
| UPC2  | 3         | 2.7294     | Continuous Transition (Red Class)                   | 0.01122          |
| UPC2  | 4         | 2.69679    | Discontinuous Transition (Green Class)              | 0.05187          |
| EPO1  | 1         | N/A        | No assembly at all concentrations (Blue Class)      | 1                |
| EPO1  | 2         | N/A        | No assembly at all concentrations (Blue Class)      | 0.99271          |
| EPO1  | 3         | N/A        | No assembly at all concentrations (Blue Class)      | 1                |
| EPO1  | 4         | N/A        | No assembly at all concentrations (Blue Class)      | 1                |
| SSD1  | 1         | 3.78296    | Incomplete Transition (Yellow Class)                | 0.99272          |
| SSD1  | 2         | 3.78232    | No assembly at all concentrations (Blue Class)      | 1                |
| SSD1  | 3         | 4.13132    | No assembly at all concentrations (Blue Class)      | 1                |
| SSD1  | 4         | 3.98893    | No assembly at all concentrations (Blue Class)      | 1                |
| NGR1  | 1         | 2.75225    | Discontinuous Transition (Green Class)              | 0.09884          |
| NGR1  | 2         | 2.63139    | Continuous Transition (Red Class)                   | 0.04355          |
| NGR1  | 3         | 2.58948    | Discontinuous Transition (Green Class)              | 0.13361          |
| NGR1  | 4         | 2.74044    | Discontinuous Transition (Green Class)              | 0.079            |
| PGD1  | 1         | 3.6516     | Incomplete Transition (Yellow Class)                | 0.94968          |
| PGD1  | 2         | 3.6636     | Incomplete Transition (Yellow Class)                | 0.94764          |
| PGD1  | 3         | 3.72017    | Incomplete Transition (Yellow Class)                | 0.97784          |
| PGD1  | 4         | 3.70865    | Incomplete Transition (Yellow Class)                | 0.96308          |
| SLM1  | 1         | N/A        | No assembly at all concentrations (Blue Class)      | 0.98933          |
| SLM1  | 2         | N/A        | No assembly at all concentrations (Blue Class)      | 0.92972          |
| SLM1  | 3         | N/A        | No assembly at all concentrations (Blue Class)      | 0.75374          |
| SLM1  | 4         | N/A        | No assembly at all concentrations (Blue Class)      | 0.99123          |
| Gene      | Replicate | log10(c50) | Classification                          | Confidence-Score |
|-----------|-----------|------------|-----------------------------------------|------------------|
| SDD4      | 1         | 3.16676    | Continuous Transition (Red Class)       | 0.11301          |
| SDD4      | 2         | 3.08165    | Continuous Transition (Red Class)       | 0.0967           |
| SDD4      | 3         | 3.22497    | Continuous Transition (Red Class)       | 0.23309          |
| SDD4      | 4         | 3.22042    | Discontinuous Transition (Green Class)  | 0.01282          |
| AKL1      | 1         | N/A        | No assembly at all concentrations (Blue Class) | 0.99983         |
| AKL1      | 2         | N/A        | No assembly at all concentrations (Blue Class) | 1               |
| AKL1      | 3         | N/A        | No assembly at all concentrations (Blue Class) | 1               |
| AKL1      | 4         | N/A        | No assembly at all concentrations (Blue Class) | 0.85309         |
| RBS1      | 1         | 1.82975    | Continuous Transition (Red Class)       | 0.17792          |
| RBS1      | 2         | 2.05539    | Continuous Transition (Red Class)       | 0.72572          |
| RBS1      | 3         | 2.03963    | Continuous Transition (Red Class)       | 0.96385          |
| RBS1      | 4         | 1.91689    | Continuous Transition (Red Class)       | 0.90912          |
| MCM1      | 1         | 5.30619    | No assembly at all concentrations (Blue Class) | 1               |
| MCM1      | 2         | N/A        | No assembly at all concentrations (Blue Class) | 1               |
| MCM1      | 3         | N/A        | No assembly at all concentrations (Blue Class) | 0.65426         |
| MCM1      | 4         | N/A        | No assembly at all concentrations (Blue Class) | 0.74376         |
| NSP1      | 1         | 2.9803     | Discontinuous Transition (Green Class)  | 0.7901           |
| NSP1      | 2         | 2.94259    | Discontinuous Transition (Green Class)  | 0.72427          |
| NSP1      | 3         | 2.97746    | Discontinuous Transition (Green Class)  | 0.74131          |
| NSP1      | 4         | 2.9443     | Discontinuous Transition (Green Class)  | 0.74389          |
| VTS1      | 1         | N/A        | No assembly at all concentrations (Blue Class) | 0.75444         |
| VTS1      | 2         | N/A        | No assembly at all concentrations (Blue Class) | 0.74521         |
| VTS1      | 3         | N/A        | No assembly at all concentrations (Blue Class) | 0.39748         |
| VTS1      | 4         | 5.27819    | No assembly at all concentrations (Blue Class) | 1               |
| YBL081W   | 1         | 2.35525    | Discontinuous Transition (Green Class)  | 0.12068          |
| YBL081W   | 2         | 2.2571     | Discontinuous Transition (Green Class)  | 0.19335          |
| YBL081W   | 3         | 2.29278    | Discontinuous Transition (Green Class)  | 0.44009          |
| YBL081W   | 4         | 2.24925    | Discontinuous Transition (Green Class)  | 0.26212          |
| NUP42     | 1         | N/A        | No assembly at all concentrations (Blue Class) | 0.97464         |
| NUP42     | 2         | 4.37295    | No assembly at all concentrations (Blue Class) | 1               |
| NUP42     | 3         | 4.30003    | No assembly at all concentrations (Blue Class) | 1               |
| NUP42     | 4         | N/A        | No assembly at all concentrations (Blue Class) | 0.33485         |
| Gene | Replicate | log10(c50) | Classification | Confidence-Score |
|------|-----------|------------|---------------|-----------------|
| SNF2 | 1         | N/A        | No assembly at all concentrations (Blue Class) | 0.99699         |
| SNF2 | 2         | N/A        | No assembly at all concentrations (Blue Class) | 1               |
| SNF2 | 3         | N/A        | No assembly at all concentrations (Blue Class) | 1               |
| SNF2 | 4         | N/A        | No assembly at all concentrations (Blue Class) | 1               |
| HRP1 | 1         | 3.03281    | Continuous Transition (Red Class)               | 0.23741         |
| HRP1 | 2         | 2.93458    | Continuous Transition (Red Class)               | 0.04084         |
| HRP1 | 3         | 2.95435    | Continuous Transition (Red Class)               | 0.22321         |
| HRP1 | 4         | 3.02647    | Continuous Transition (Red Class)               | 0.12591         |
| SGF73| 1         | N/A        | No assembly at all concentrations (Blue Class)  | 0.98477         |
| SGF73| 2         | 4.64626    | No assembly at all concentrations (Blue Class)  | 1               |
| SGF73| 3         | 4.32142    | No assembly at all concentrations (Blue Class)  | 1               |
| SGF73| 4         | N/A        | No assembly at all concentrations (Blue Class)  | 0.9778          |
| NAB3 | 1         | 1.13884    | Assembled at all concentrations (Black Class)   | 1               |
| NAB3 | 2         | 1.19238    | Assembled at all concentrations (Black Class)   | 1               |
| NAB3 | 3         | N/A        | Assembled at all concentrations (Black Class)   | 0.70136         |
| NAB3 | 4         | 1.07915    | Assembled at all concentrations (Black Class)   | 1               |
| PAN1 | 1         | 2.70573    | Continuous Transition (Red Class)               | 0.00028         |
| PAN1 | 2         | 2.72818    | Discontinuous Transition (Green Class)          | 0.05652         |
| PAN1 | 3         | 2.64859    | Discontinuous Transition (Green Class)          | 0.11667         |
| PAN1 | 4         | 2.74148    | Discontinuous Transition (Green Class)          | 0.00485         |
| CYC8 | 1         | 3.08171    | Discontinuous Transition (Green Class)          | 0.28287         |
| CYC8 | 2         | 3.00557    | Discontinuous Transition (Green Class)          | 0.28361         |
| CYC8 | 3         | 2.96179    | Discontinuous Transition (Green Class)          | 0.42775         |
| CYC8 | 4         | 3.18428    | Discontinuous Transition (Green Class)          | 0.34745         |
| NUP49| 1         | 3.35552    | Incomplete Transition (Yellow Class)            | 0.60793         |
| NUP49| 2         | 3.32693    | Incomplete Transition (Yellow Class)            | 0.42966         |
| NUP49| 3         | 3.36907    | Incomplete Transition (Yellow Class)            | 0.49218         |
| NUP49| 4         | 3.33511    | Incomplete Transition (Yellow Class)            | 0.48106         |
| CBK1 | 1         | 3.61579    | Incomplete Transition (Yellow Class)            | 0.93827         |
| CBK1 | 2         | 3.94991    | No assembly at all concentrations (Blue Class)  | 1               |
| CBK1 | 3         | 5.39718    | No assembly at all concentrations (Blue Class)  | 1               |
| CBK1 | 4         | 4.24137    | No assembly at all concentrations (Blue Class)  | 1               |
| Gene  | Replicate | log10(c50) | Classification                                      | Confidence-Score |
|-------|-----------|-----------|-----------------------------------------------------|------------------|
| PSP1  | 1         | 2.7653    | Discontinuous Transition (Green Class)              | 0.72513          |
| PSP1  | 2         | 2.98055   | Continuous Transition (Red Class)                   | 0.00252          |
| PSP1  | 3         | 2.67973   | Discontinuous Transition (Green Class)              | 0.69536          |
| PSP1  | 4         | 2.72202   | Discontinuous Transition (Green Class)              | 0.67023          |
| AZF1  | 1         | 3.80441   | Incomplete Transition (Yellow Class)                | 0.99503          |
| AZF1  | 2         | 3.74481   | Incomplete Transition (Yellow Class)                | 0.99488          |
| AZF1  | 3         | 3.81324   | No assembly at all concentrations (Blue Class)      | 1                |
| AZF1  | 4         | 3.80368   | No assembly at all concentrations (Blue Class)      | 1                |
| YAP1801 | 1    | 2.2158    | Discontinuous Transition (Green Class)              | 0.19507          |
| YAP1801 | 2    | 1.98637   | Discontinuous Transition (Green Class)              | 0.09256          |
| YAP1801 | 3    | 3.63809   | No assembly at all concentrations (Blue Class)      | 1                |
| YAP1801 | 4    | 1.80598   | Discontinuous Transition (Green Class)              | 0.24605          |
| NUP57  | 1         | 3.94703   | No assembly at all concentrations (Blue Class)      | 1                |
| NUP57  | 2         | 3.70453   | Incomplete Transition (Yellow Class)                | 0.99302          |
| NUP57  | 3         | 4.58337   | No assembly at all concentrations (Blue Class)      | 1                |
| NUP57  | 4         | 3.81348   | Incomplete Transition (Yellow Class)                | 0.9975           |
| SNF5   | 1         | N/A       | No assembly at all concentrations (Blue Class)      | 1                |
| SNF5   | 2         | N/A       | No assembly at all concentrations (Blue Class)      | 1                |
| SNF5   | 3         | N/A       | No assembly at all concentrations (Blue Class)      | 0.95201          |
| SNF5   | 4         | N/A       | No assembly at all concentrations (Blue Class)      | 1                |
| SOK2   | 1         | 2.46392   | Continuous Transition (Red Class)                   | 0.19211          |
| SOK2   | 2         | 2.5083    | Continuous Transition (Red Class)                   | 0.1593           |
| SOK2   | 3         | 2.48824   | Continuous Transition (Red Class)                   | 0.08865          |
| SOK2   | 4         | 2.4494    | Continuous Transition (Red Class)                   | 0.15341          |
| AIM3   | 1         | 2.90383   | Discontinuous Transition (Green Class)              | 0.18089          |
| AIM3   | 2         | 2.60868   | Discontinuous Transition (Green Class)              | 0.28213          |
| AIM3   | 3         | 2.82519   | Discontinuous Transition (Green Class)              | 0.28513          |
| AIM3   | 4         | 2.83215   | Discontinuous Transition (Green Class)              | 0.16509          |
| SCD5   | 1         | 2.65369   | Continuous Transition (Red Class)                   | 0.02031          |
| SCD5   | 2         | 2.72875   | Continuous Transition (Red Class)                   | 0.09531          |
| SCD5   | 3         | 2.65141   | Continuous Transition (Red Class)                   | 0.05025          |
| SCD5   | 4         | 2.68091   | Continuous Transition (Red Class)                   | 0.15817          |
| Gene    | Replicate | log10(c50) | Classification                        | Confidence-Score |
|---------|-----------|------------|---------------------------------------|------------------|
| DEF1    | 1         | 2.80259    | Continuous Transition (Red Class)     | 0.26867          |
| DEF1    | 2         | 2.36541    | Continuous Transition (Red Class)     | 0.46392          |
| DEF1    | 3         | 2.28945    | Continuous Transition (Red Class)     | 0.3407           |
| DEF1    | 4         | 2.31908    | Continuous Transition (Red Class)     | 0.4924           |
| SWI1    | 1         | 3.26805    | Discontinuous Transition (Green Class)| 0.12983          |
| SWI1    | 2         | 3.15395    | Discontinuous Transition (Green Class)| 0.28509          |
| SWI1    | 3         | 3.16916    | Discontinuous Transition (Green Class)| 0.577            |
| SWI1    | 4         | 3.27442    | Discontinuous Transition (Green Class)| 0.28426          |
| NUP116  | 1         | 1          | Assembled at all concentrations (Black Class)| 1                |
| NUP116  | 2         | 1.89005    | Discontinuous Transition (Green Class)| 0.40577          |
| NUP116  | 3         | 1.90558    | Discontinuous Transition (Green Class)| 0.54484          |
| NUP116  | 4         | 1.58415    | Higher Order State (Magenta Class)    | 0.41807          |
| NUP100  | 1         | N/A        | Assembled at all concentrations (Black Class)| 0.43223          |
| NUP100  | 2         | 1.42113    | Assembled at all concentrations (Black Class)| 1                |
| NUP100  | 3         | 1.46024    | Assembled at all concentrations (Black Class)| 1                |
| NUP100  | 4         | N/A        | Assembled at all concentrations (Black Class)| 0.33569          |
Table S3: Description of the titles in Figure S2 that are used to explain how each synthetic dataset was generated. Further descriptions of how the datasets were generated are described in the main text and the Materials and Methods section. Noise Profile 1 implies low noise, Noise Profile 2 implies medium noise, and Noise Profile 3 implies high noise.
| Column Number | Column Value | Description                                                                 |
|---------------|--------------|------------------------------------------------------------------------------|
| 1             | X            | Data generated using a sigmoidal function.                                   |
| 1             | Y            | Data generated using a step function.                                        |
| 1             | Z            | 3-state data generated with overlapping regions.                             |
| 2 - 3         | NN           | Location of discontinuity in log10(c50) concentration.                      |
| 4             | L            | Low concentration type (points added below the saturation concentration)     |
| 4             | H            | High concentration type (points added above the saturation concentration)     |
| 4             | U            | Uniform concentration type (points added uniformly)                         |
| 4             | V            | Uniform Sparse concentration type (fewer points added uniformly)             |
| 5             | A            | Noise Profile 1                                                              |
| 5             | B            | Noise Profile 2                                                              |
| 5             | C            | Noise Profile 3                                                              |
| 6             | 1            | Replicate 1                                                                 |
| 6             | 2            | Replicate 2                                                                 |
| 6             | 3            | Replicate 3                                                                 |
Table S4: Plasmid numbers, cell counts, and amino acid sequences of each of the cPrDs studied.