

Supporting Information

Prediction and Experimental Confirmation of Novel Peripheral Cannabinoid-1 Receptor Antagonists

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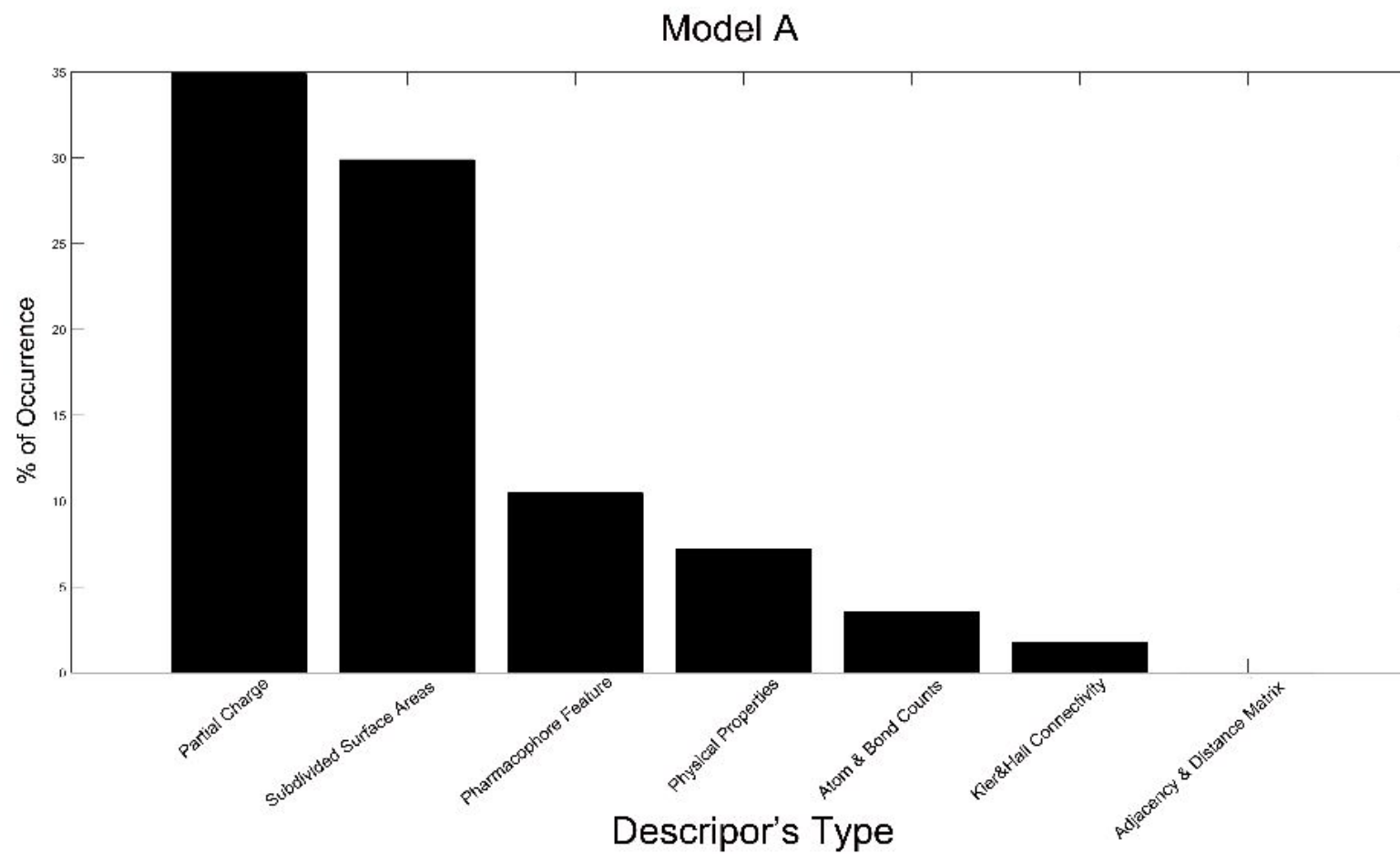
These authors contributed equally to this work

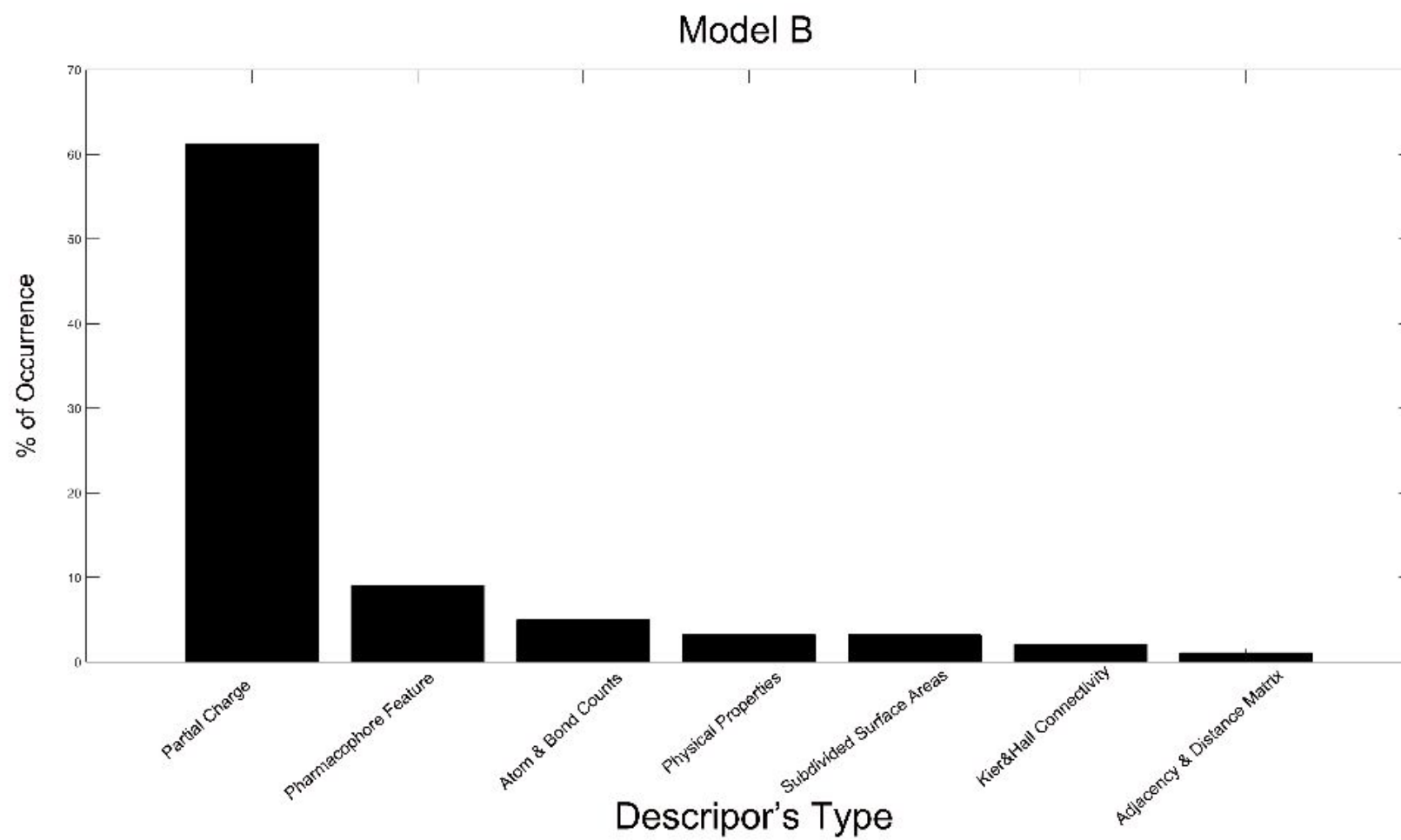
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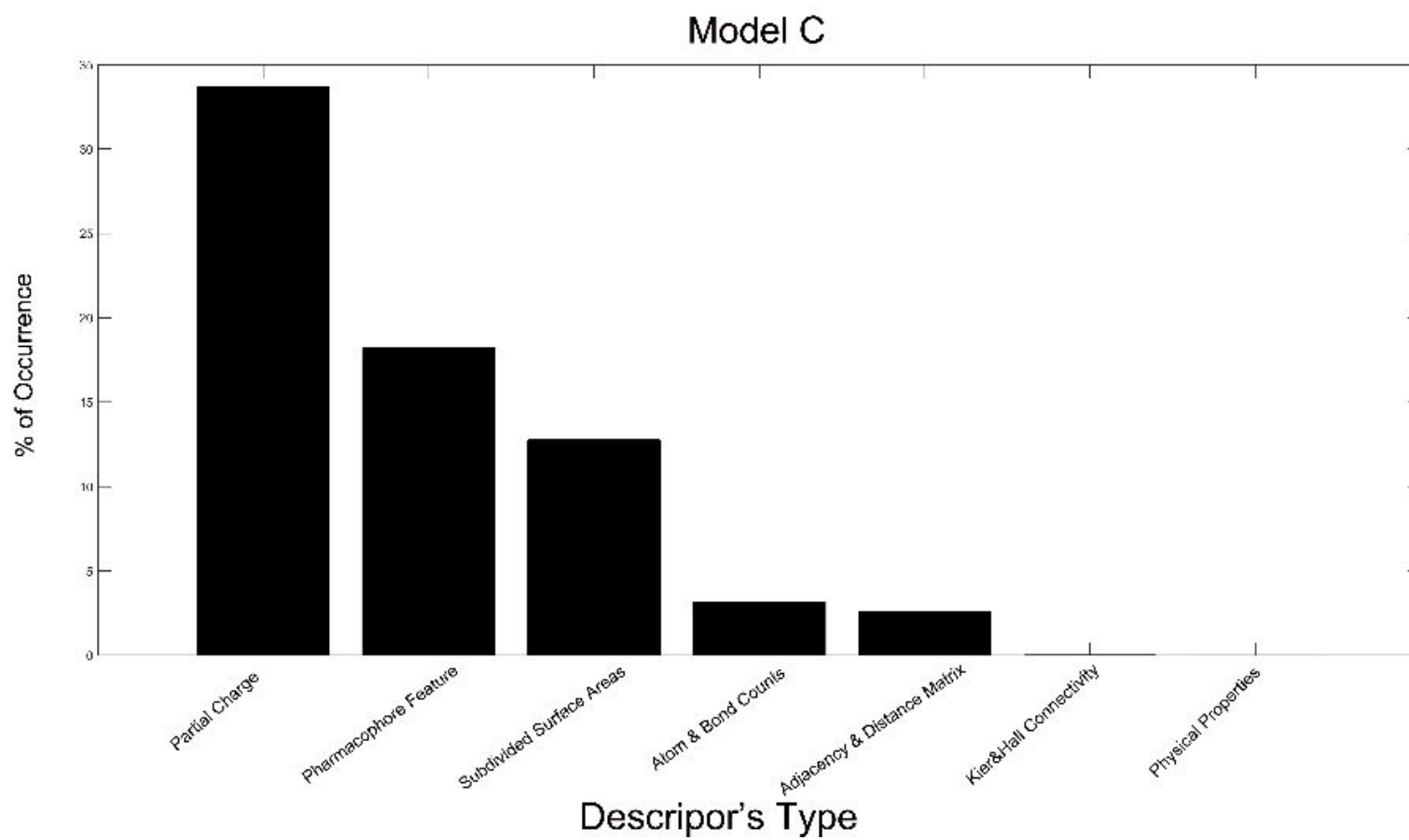
Table S1 – Ranges of properties of the learning sets

| Dataset | Molecular weight | cLogP | Hydrogen acceptors | Hydrogen donors |
|-----------------------|------------------|---------|--------------------|-----------------|
| IC ₅₀ data | 199-732 | 0.6-9.4 | 1-12 | 0-6 |
| K _i data | 258-1097 | 0.5-17 | 1-11 | 0-6 |

Figure S1 – Appearance of descriptors types of the models A-D







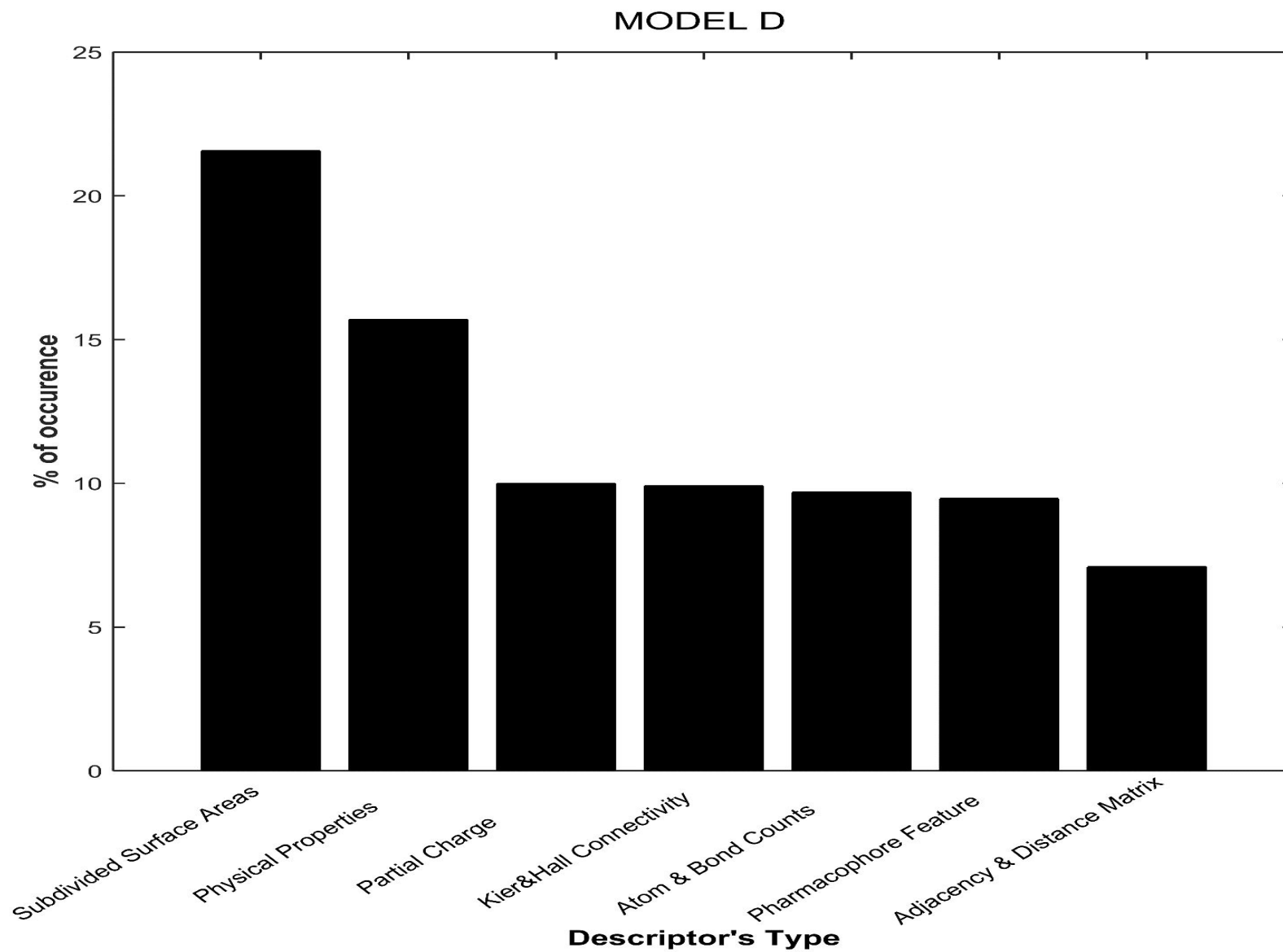
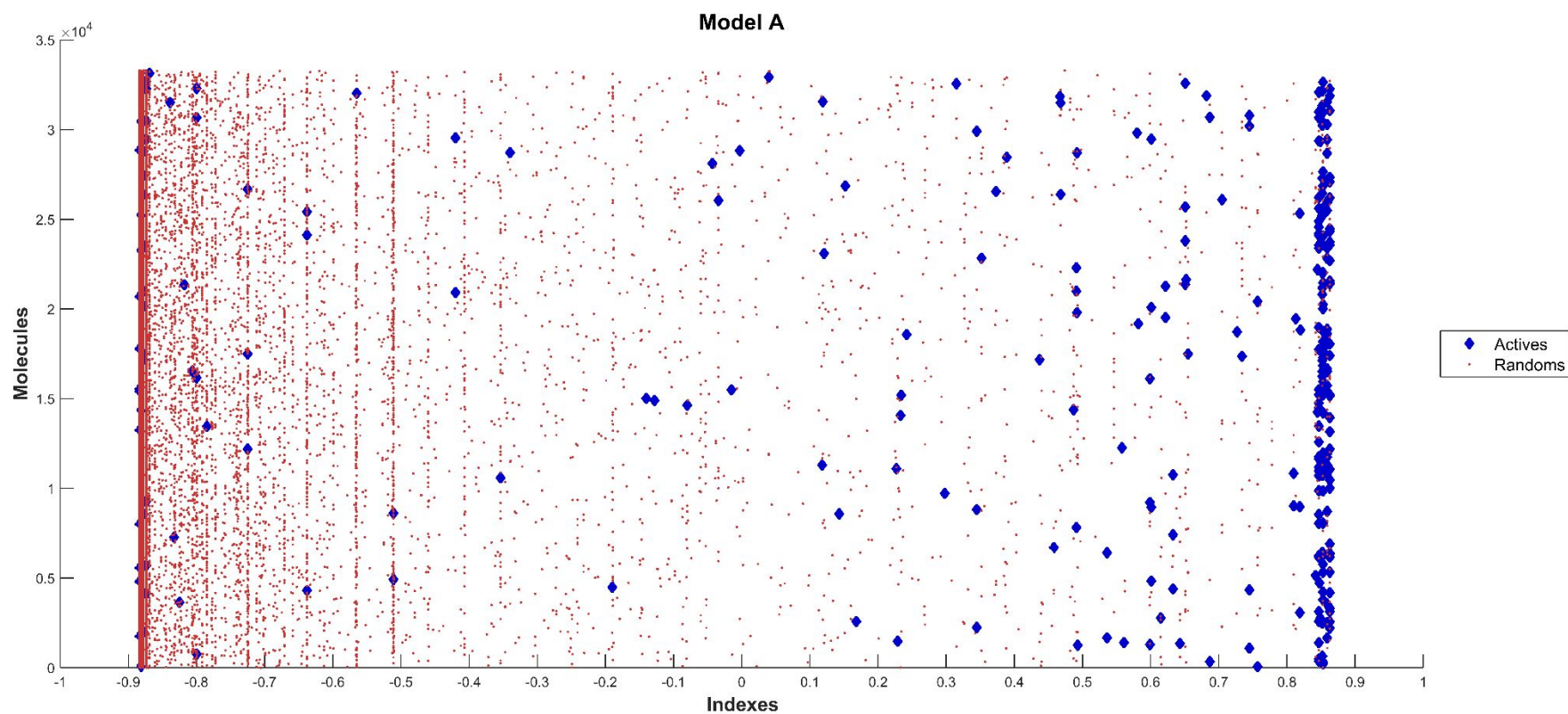
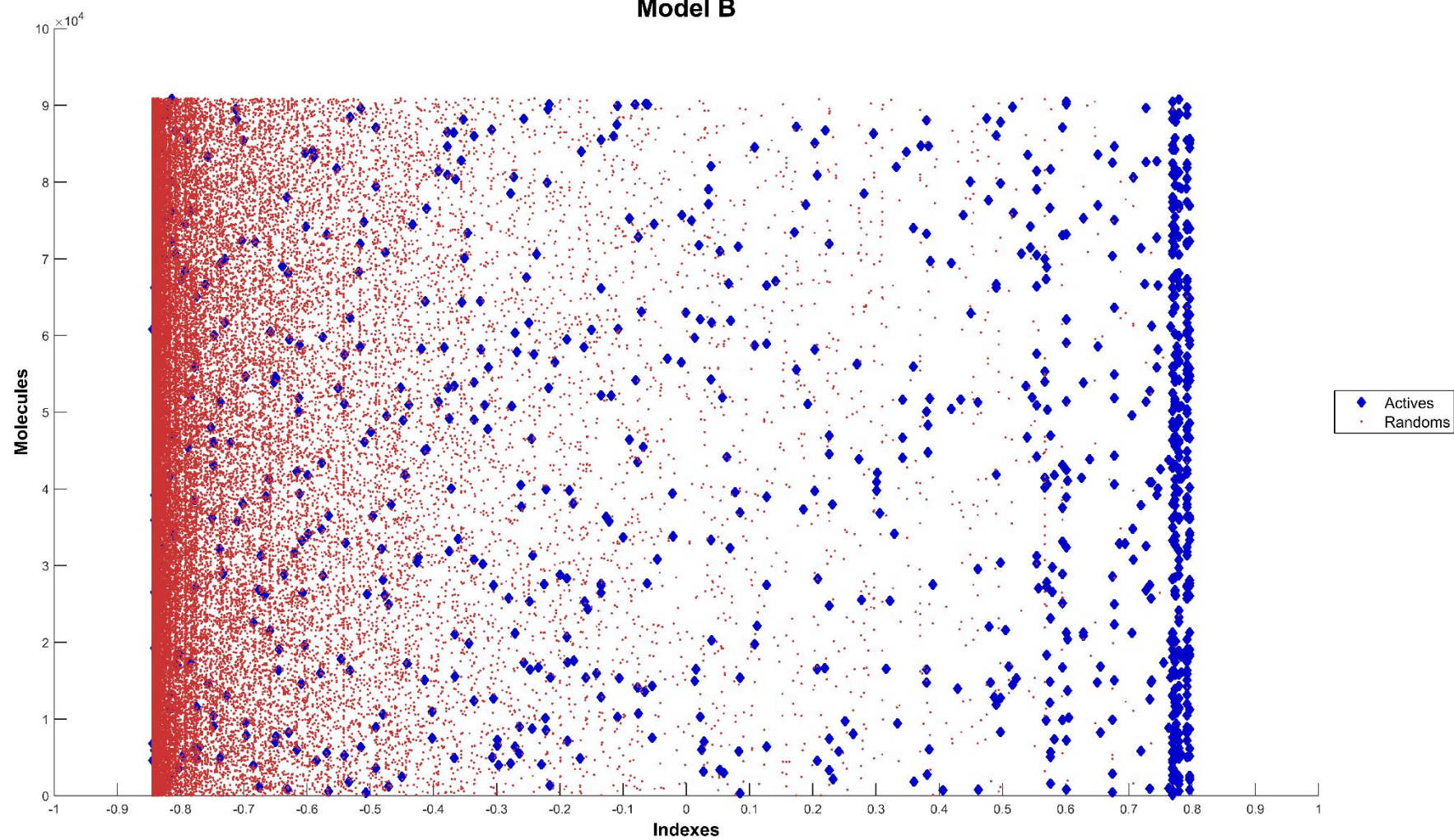
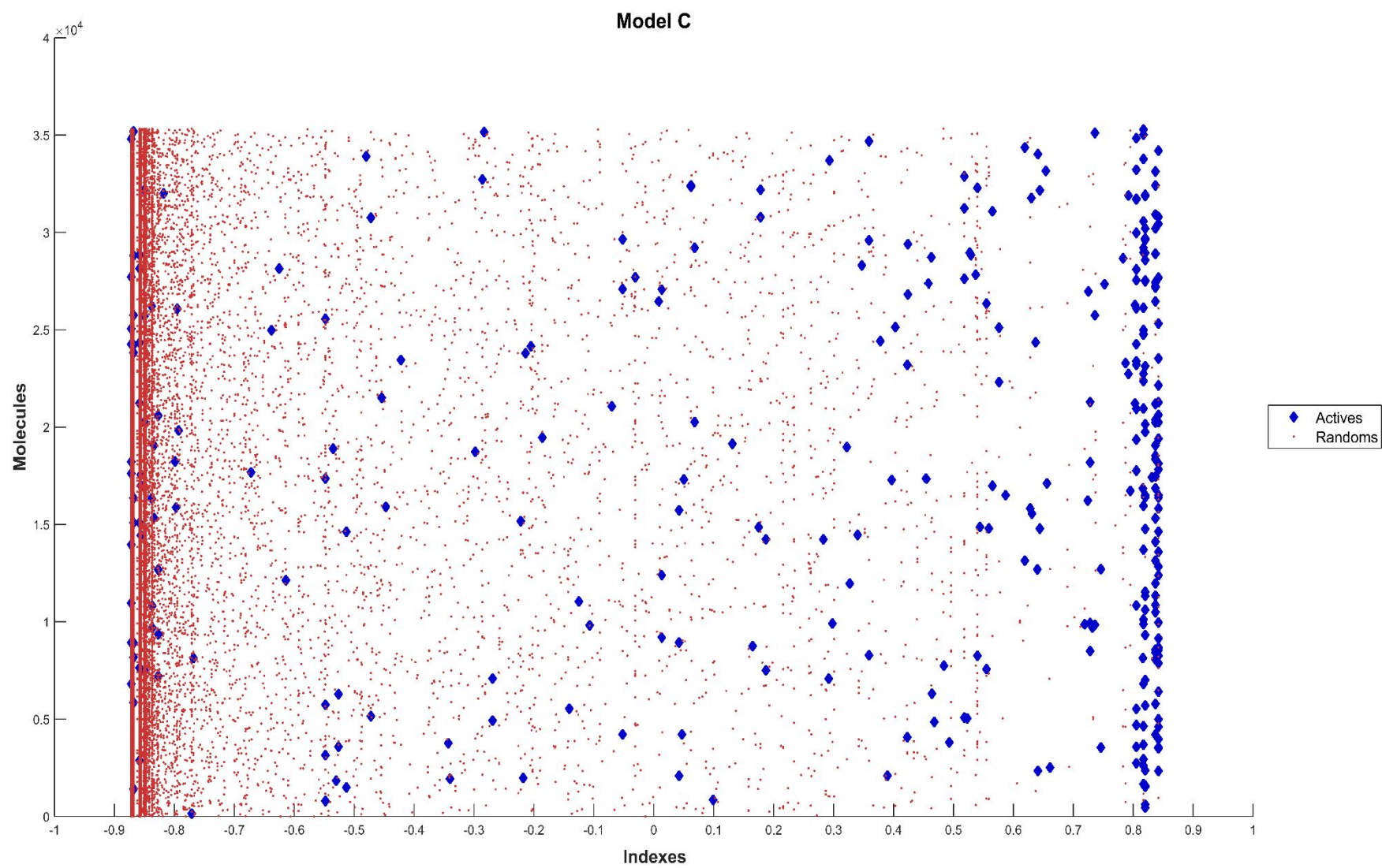


Figure S2 – Scatter plots for the actives and randoms in models A-D



Model B





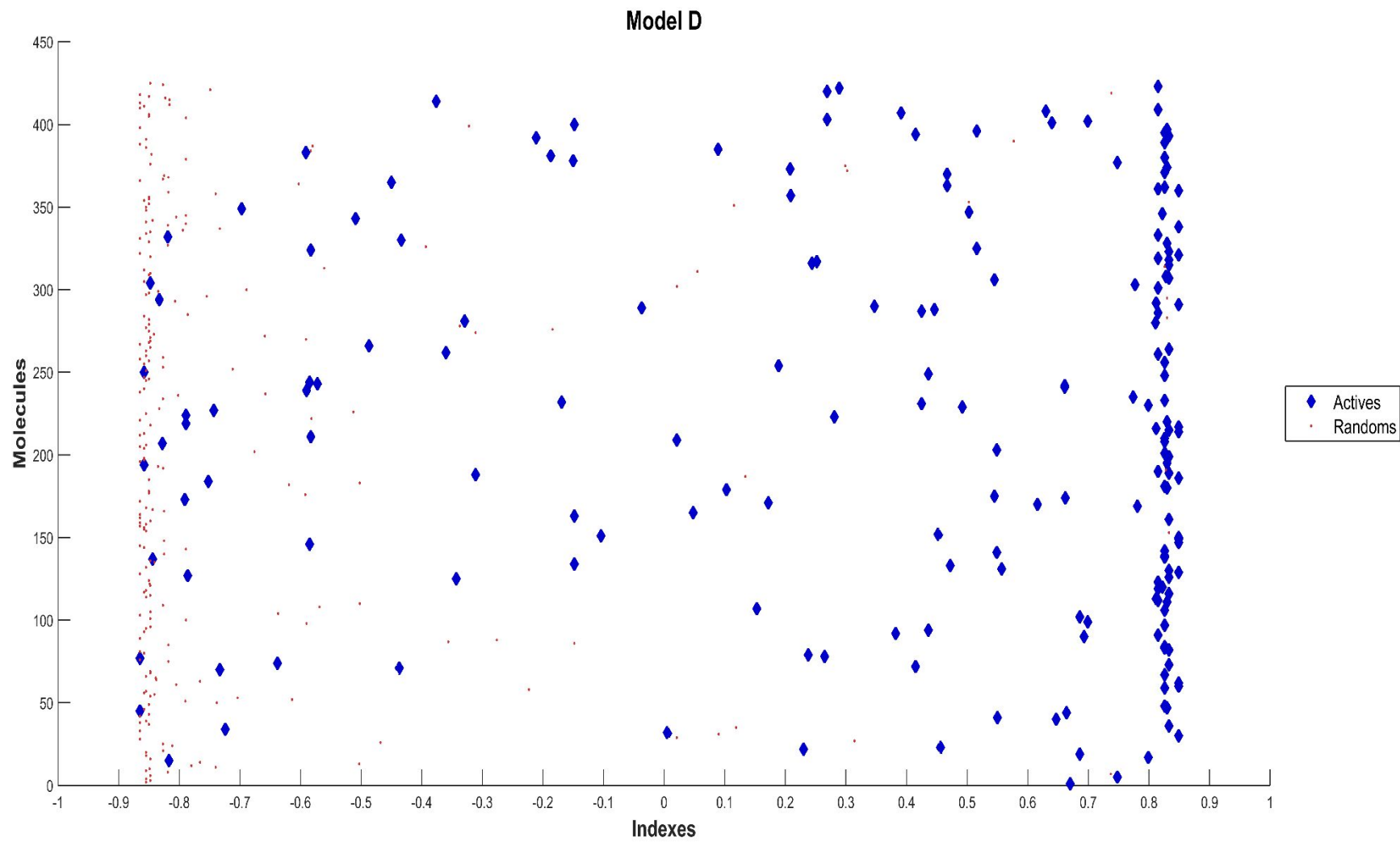
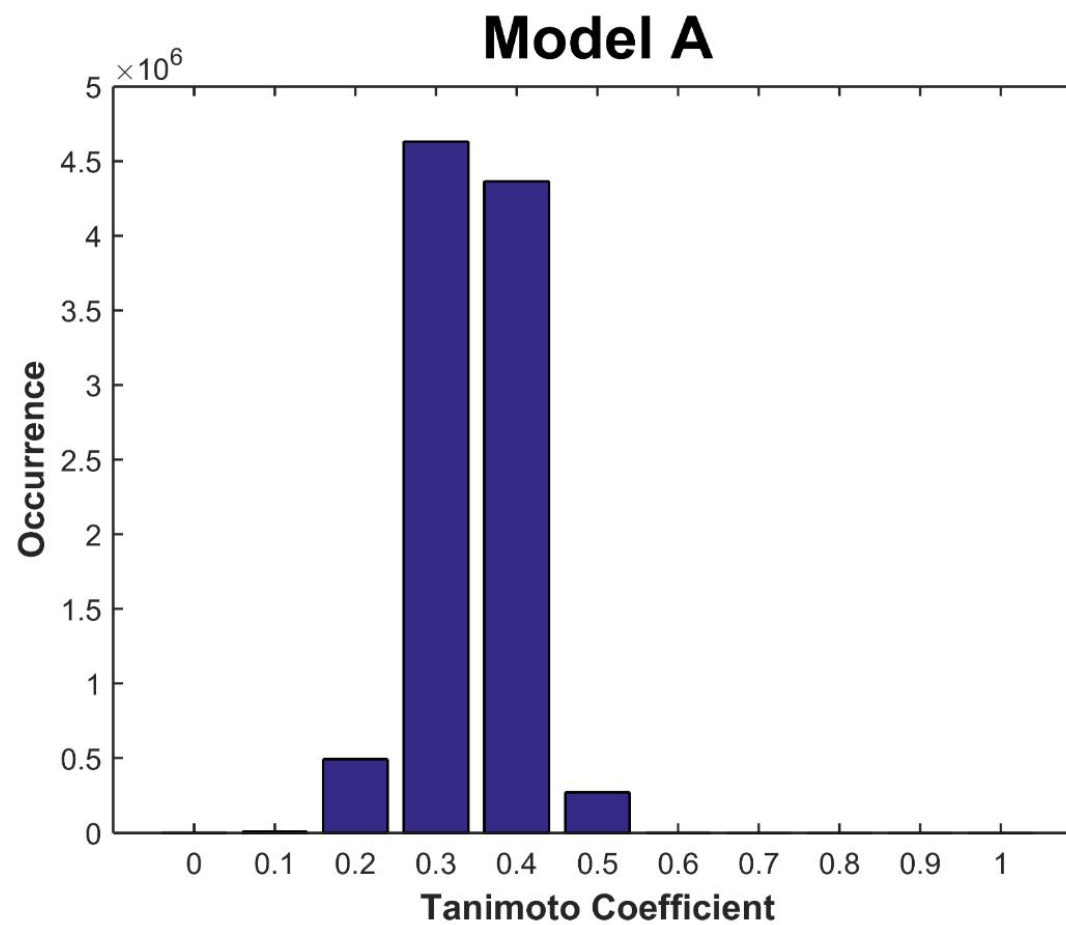
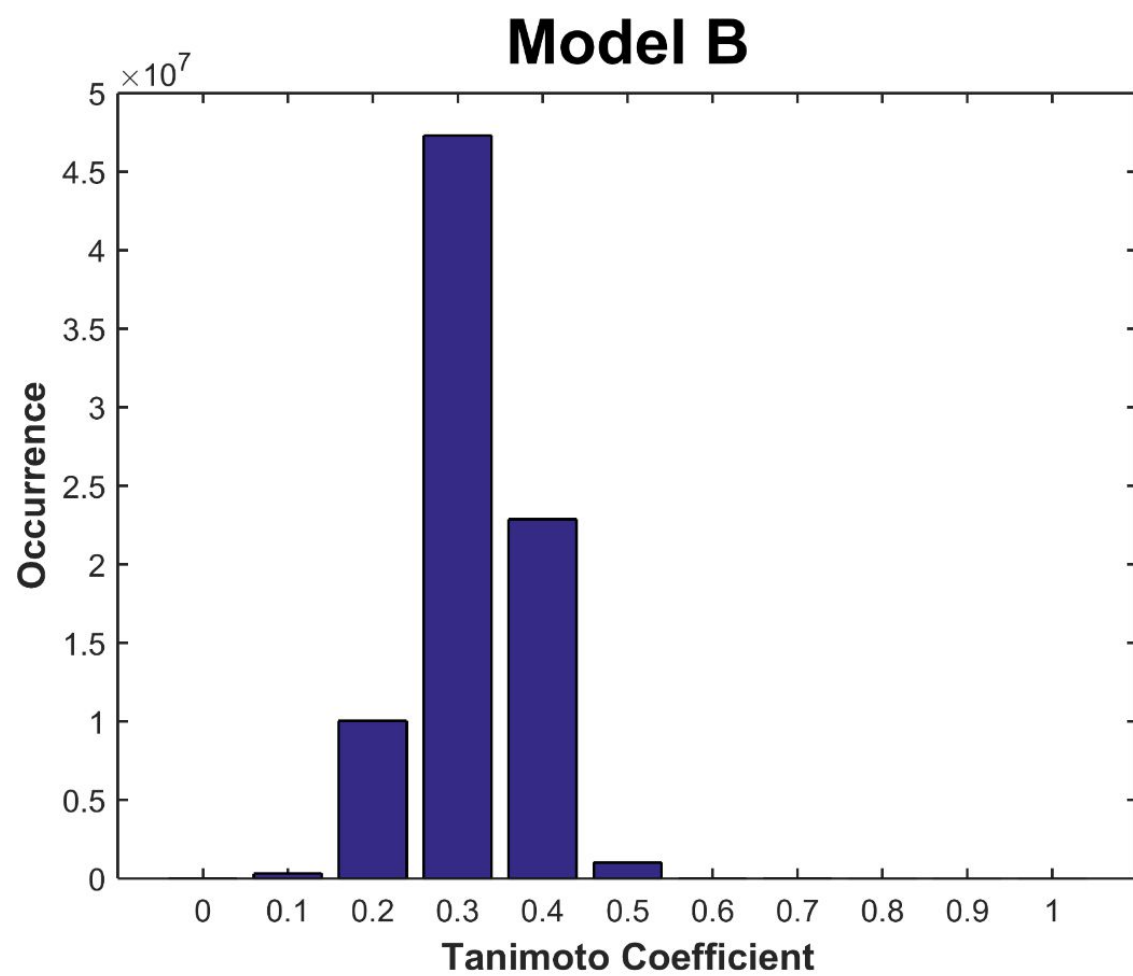
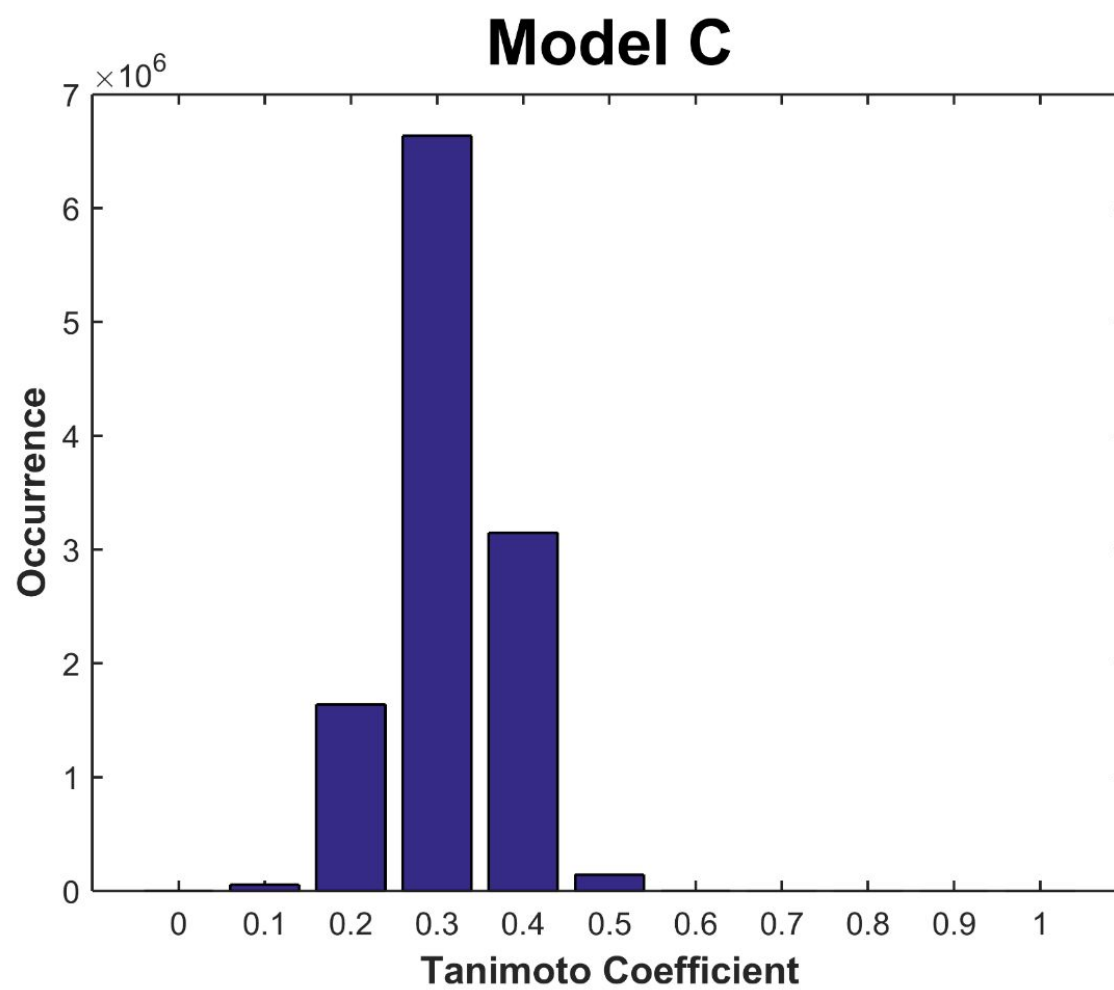


Figure S3 – Tanimoto coefficient distribution of the learning sets for models A-D







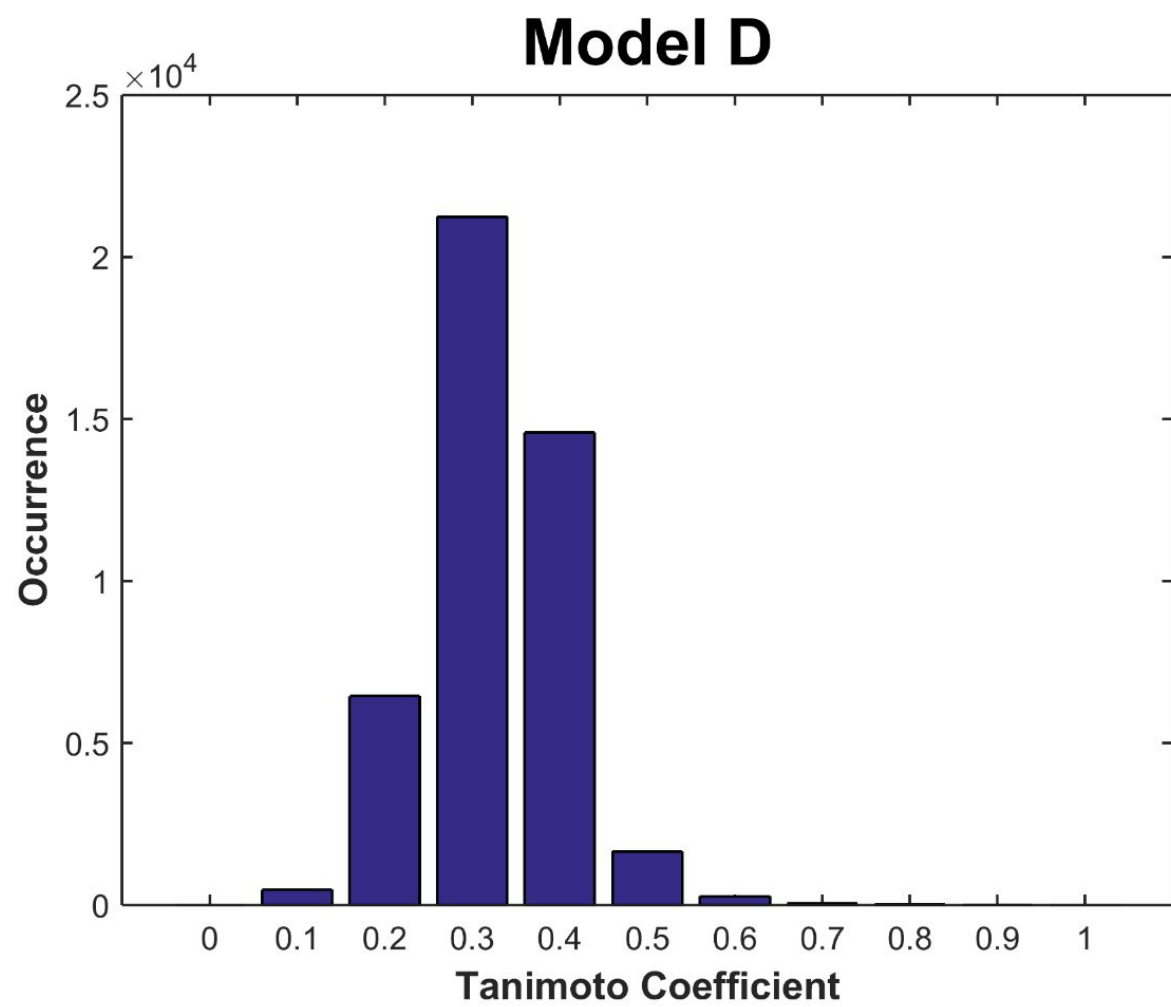
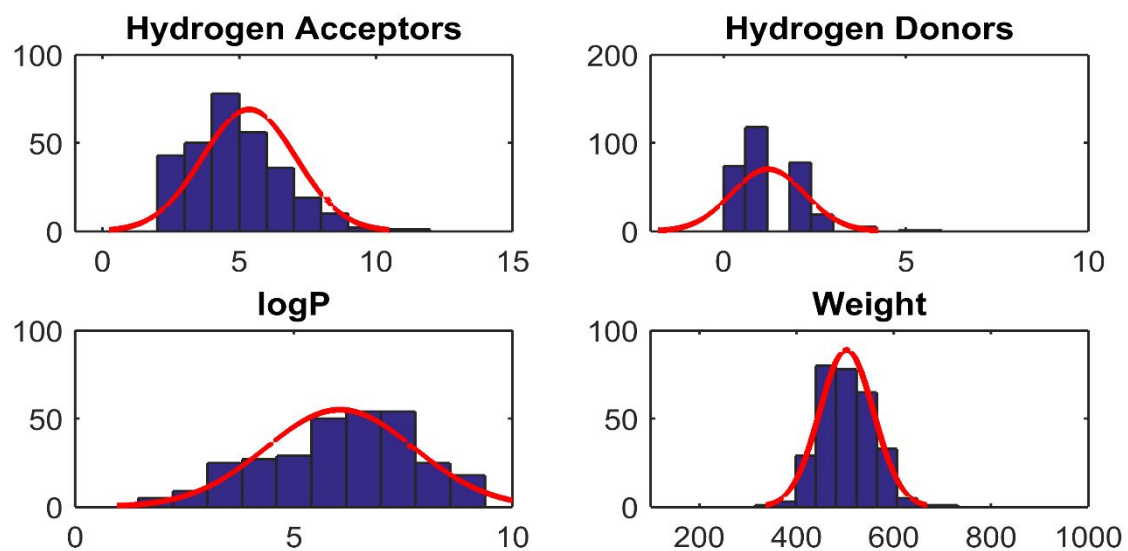
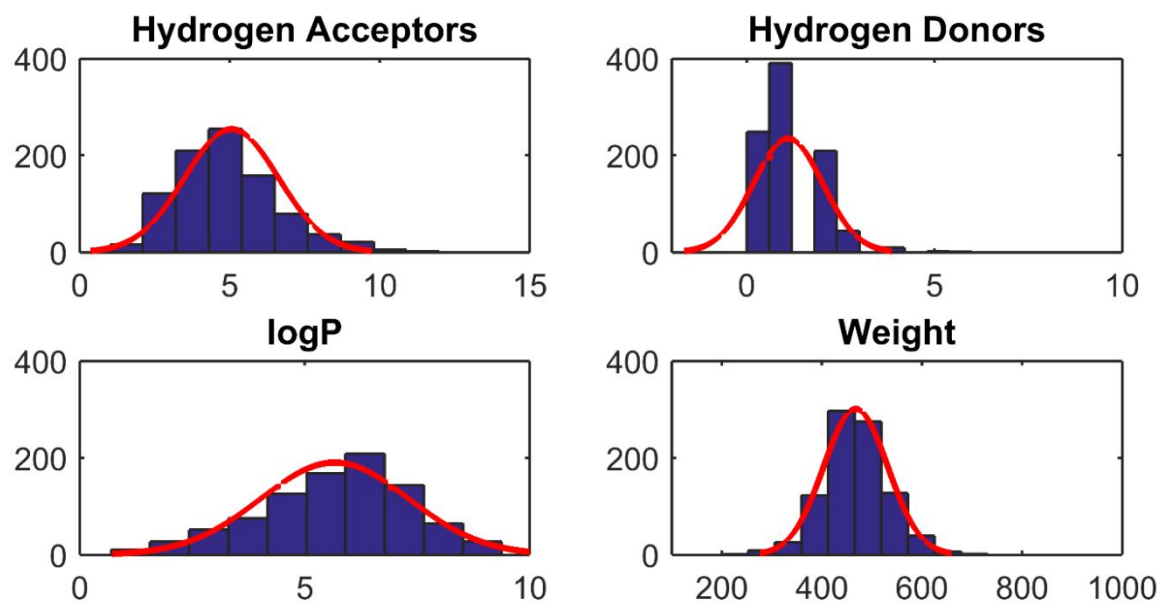


Figure S4 – The Applicability domain for models A-D and the test set

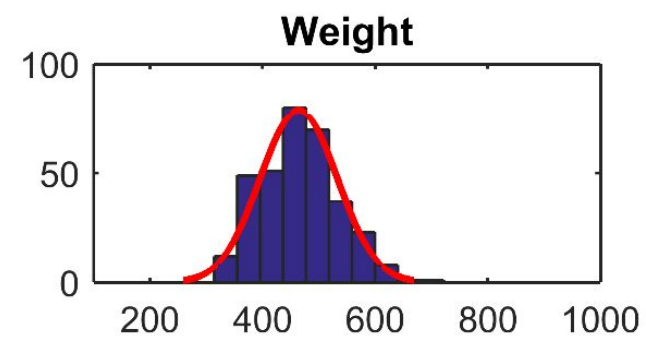
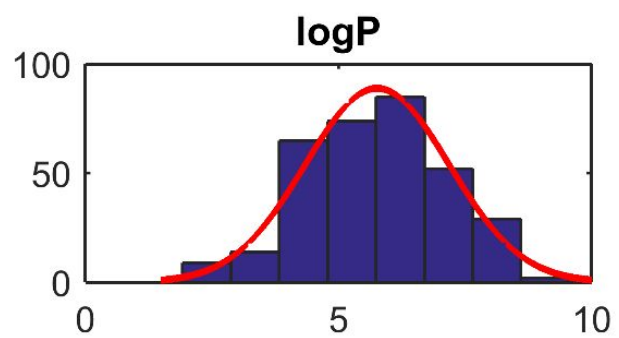
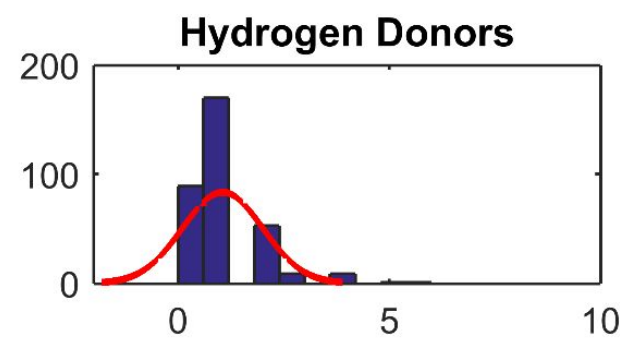
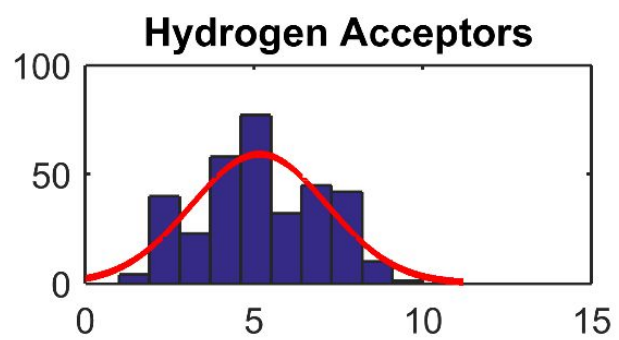
Model A



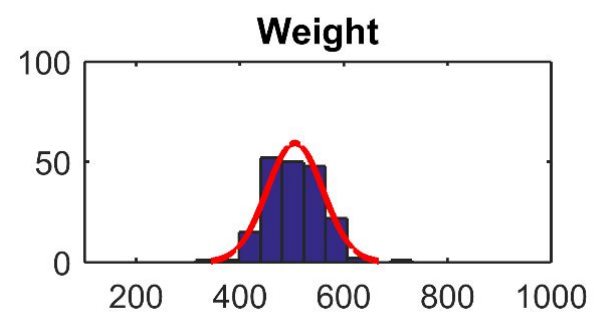
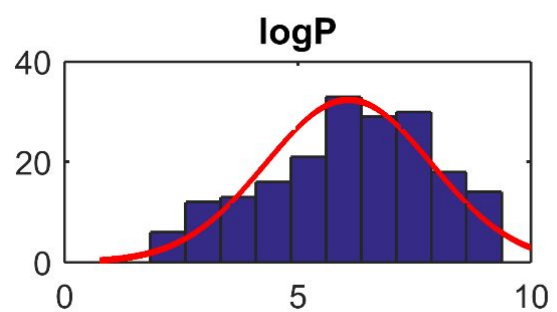
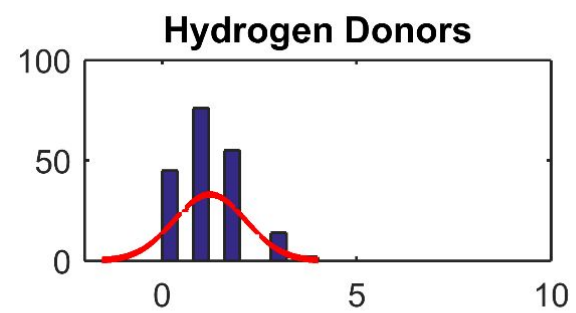
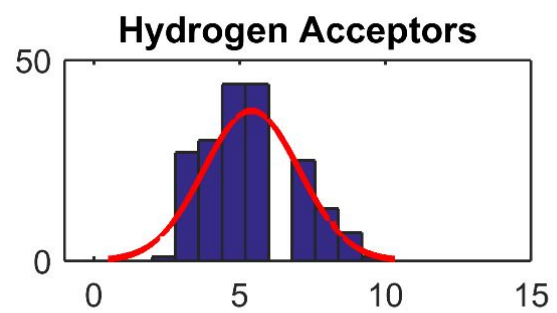
Model B



Model C



Model D



Test set

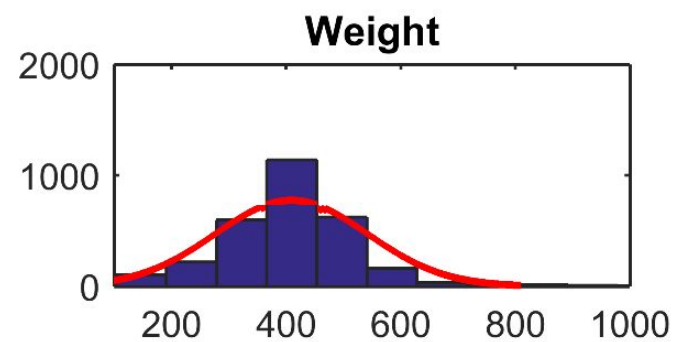
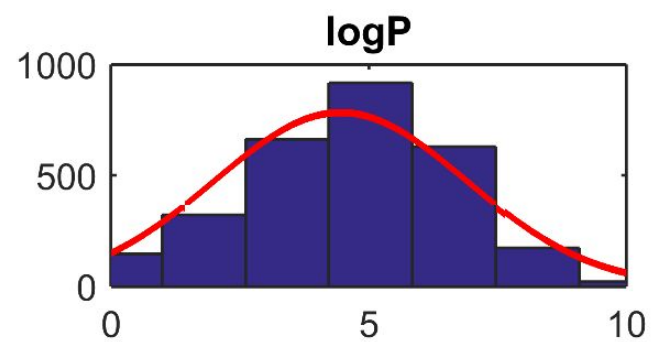
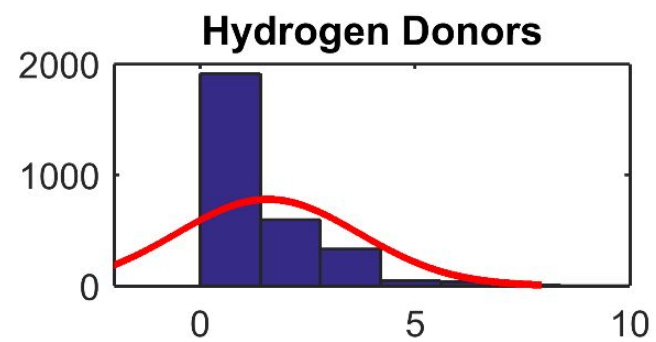
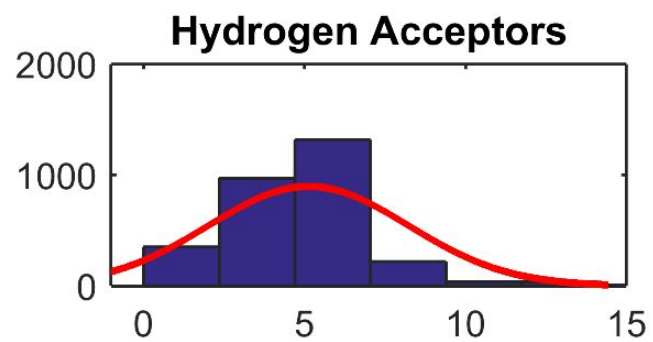
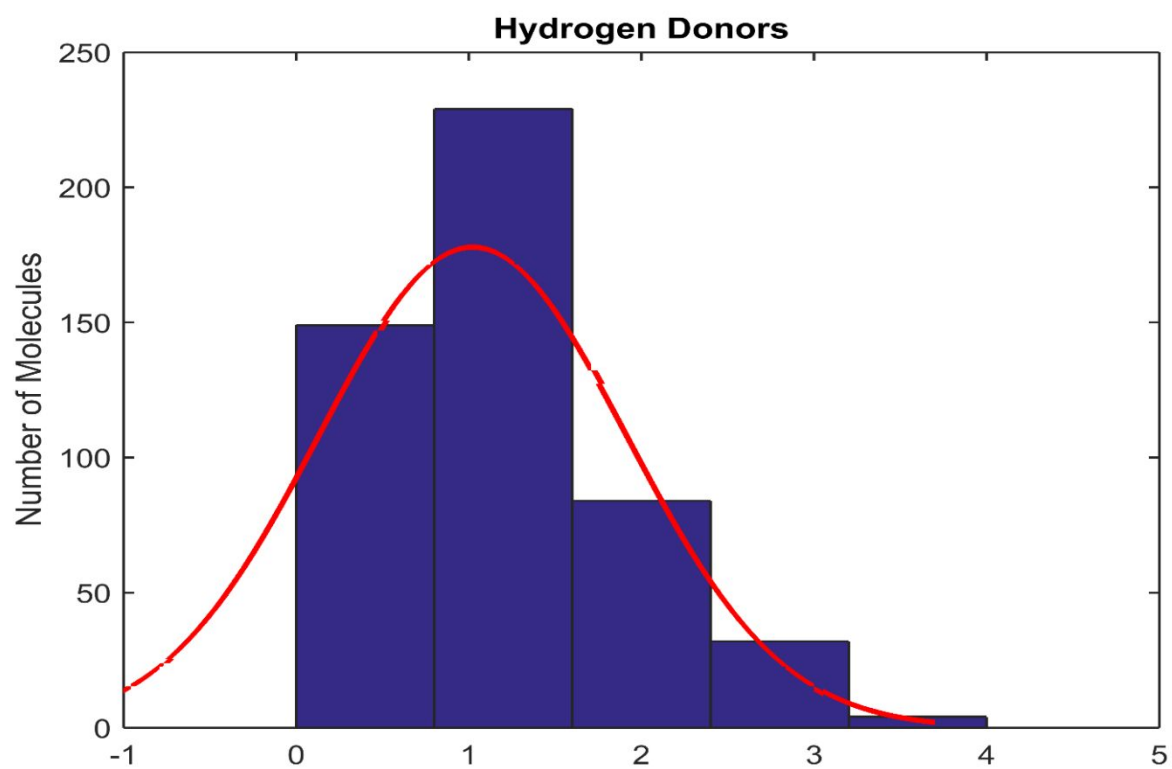
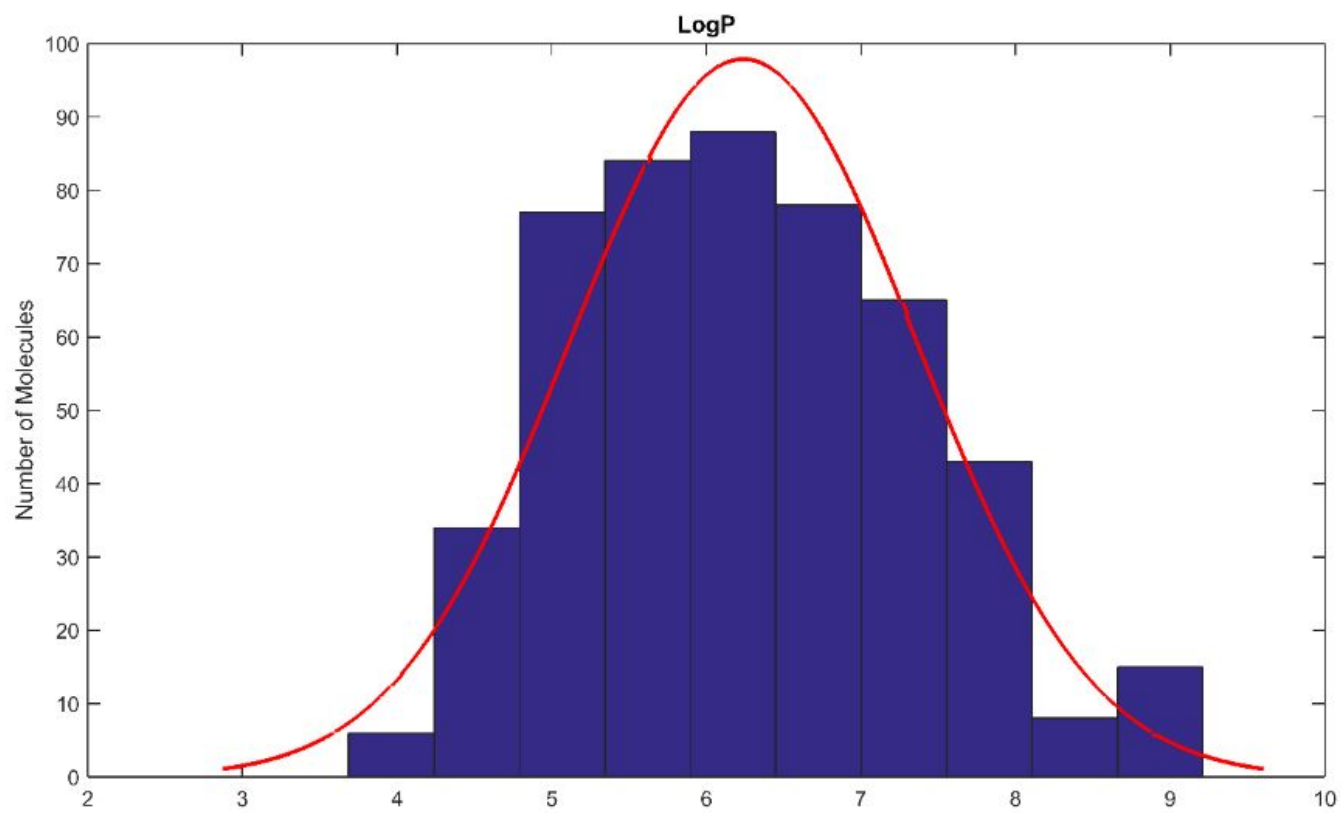


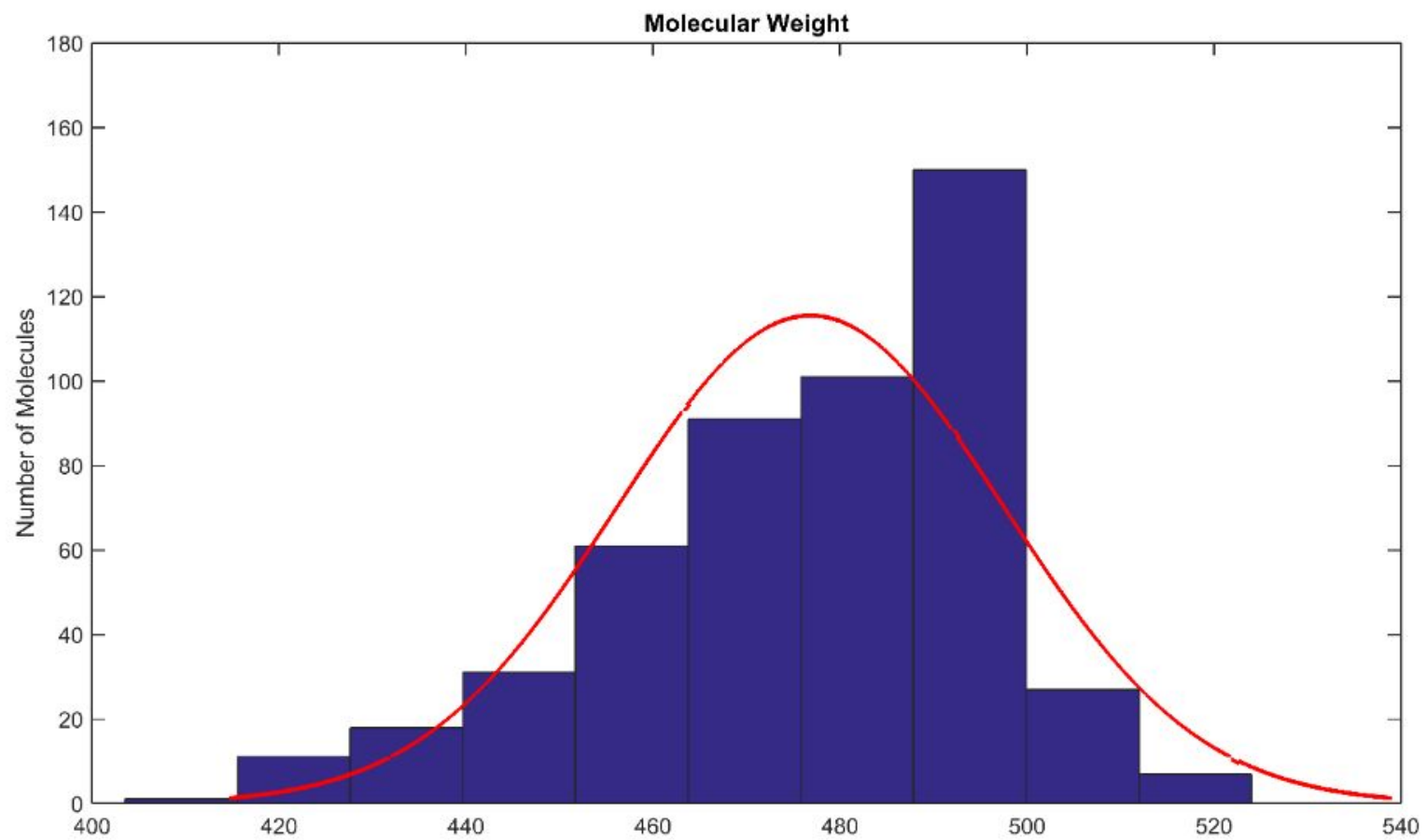
Figure S5 – Distribution of some properties of the 498 hits

The average \pm 2 STD for the properties used as peripheral filters.

| | Hydrogen Acceptors | Hydrogen Donors | LogP | Molecular Weight | PSA |
|-----------|-----------------------|--------------------|------|---------------------|-------|
| Min range | 1 | 0 | 3.99 | 435 | 26.98 |
| Max range | 4 | 3 | 8.48 | 518 | 94.29 |







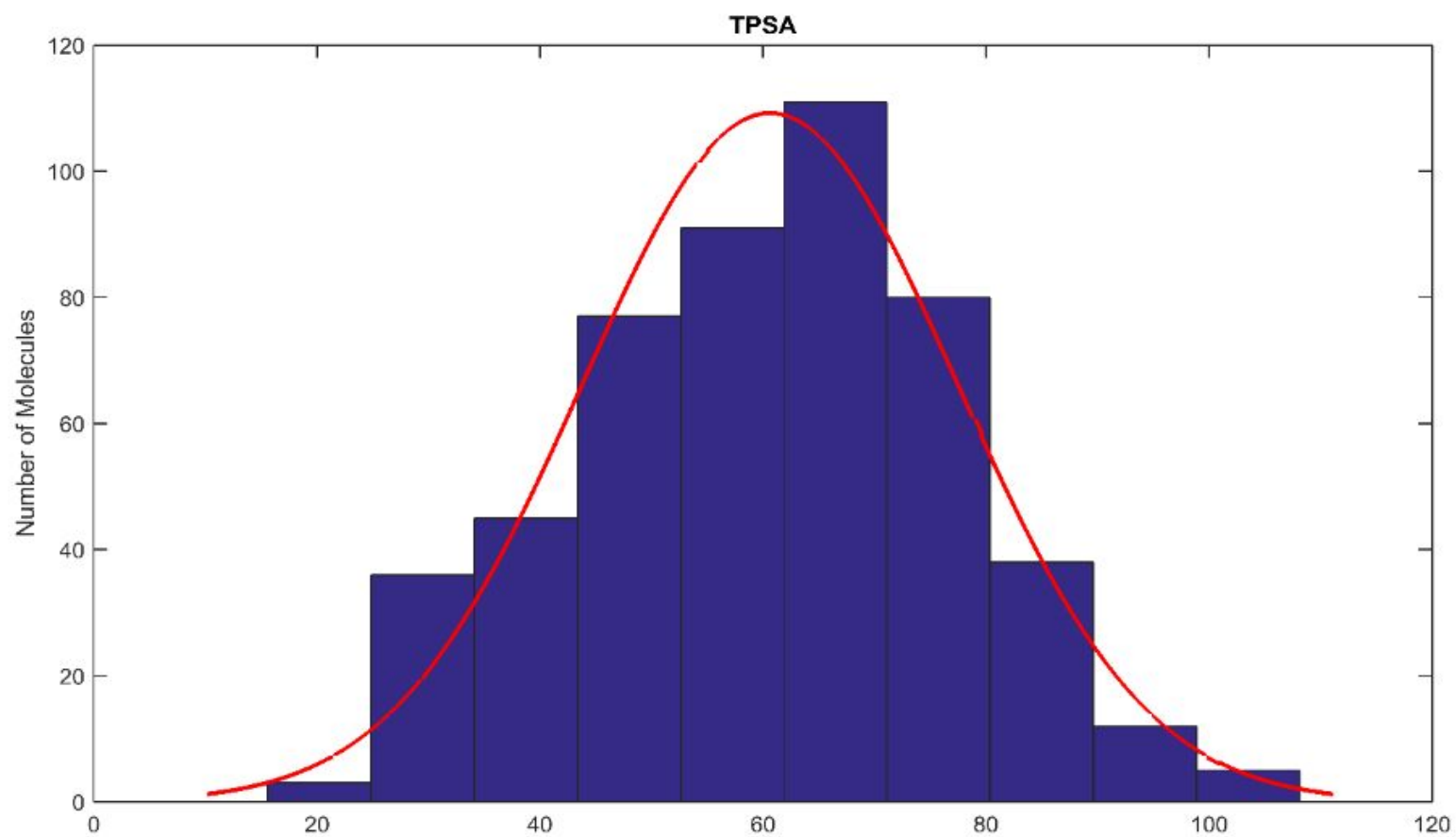


Figure S6 – Hit map for screening 15 hits through GPCRs activity models

The bars show the index (ranges from -1 to 1) in each activity model for the 15 hits from VS.

