Subject: Dealing with multiple "0% inhibition" results in HTS tests
Posted by Christophe on Thu, 28 Apr 2022 09:25:40 GMT
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Hello everyone

In medicinal chemistry, batches of molecules are tested using high-throughput screening methods constraint with a concentration threshold. For example, the whole batch is used at 1 µM and an efficacy (e.g. % inhibition) is measured at this concentration.

DW allows to calculate a ligand efficiency with these results. This is to be taken with caution as it requires extrapolating a delta G from the % inhibition.

My question: How to deal with molecules that are below their effective concentration (0% inhibition) and for which no ligand efficiency can be calculated? These molecules (more exactly all these zero results) may prevent the calculation of important parameters and/or ruin analyses such as Partial Least Squared Regression for example.
Should one remove all these zeros and retain only the molecules with activity? Is there a reasonable way to code these molecules so that the structural information they carry can still be used in some analyses?
I tried to use categorical variables and it helped for a bit. But does anyone have more experience in this area than I do?
Thanks
Best regards