

## **A Collaborative Web-Based Architecture For Sharing ToxCast™ Data**

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Collaborative Drug Discovery (CDD) has created a scalable platform that combines traditional drug discovery informatics with Web2.0 features. Traditional drug discovery capabilities include substructure, similarity searching and export to excel or sdf formats. Web2.0 features include “invitation-only, username/password protected” secure groups, secure intra-group messaging and reply capabilities, dashboards with time/date stamped audit trails per user activity, selective merging of external and internal datasets, the ability to securely share data sets between groups, and selectively edit and mask content. These combined capabilities promote inter-group collaborations. The current project demonstrates selective data sharing among BioSeek and EPA researchers and that CDD technology can handle complex multidimensional toxicology related data. We have archived BioSeek High Content Screening (HCS) data for the ToxCast™ compounds securely into the CDD database to enable sophisticated data mining across this and other datasets. We will describe how searches can be conducted within this data set and across public data in the database. We will highlight how CDD can enable further insights into these compounds, prompting discoveries that would not otherwise occur, facilitating and encouraging participants to collaborate and exchange data. Other ToxCast™ datasets could be incorporated into CDD to enable their integration and analysis as a whole.

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