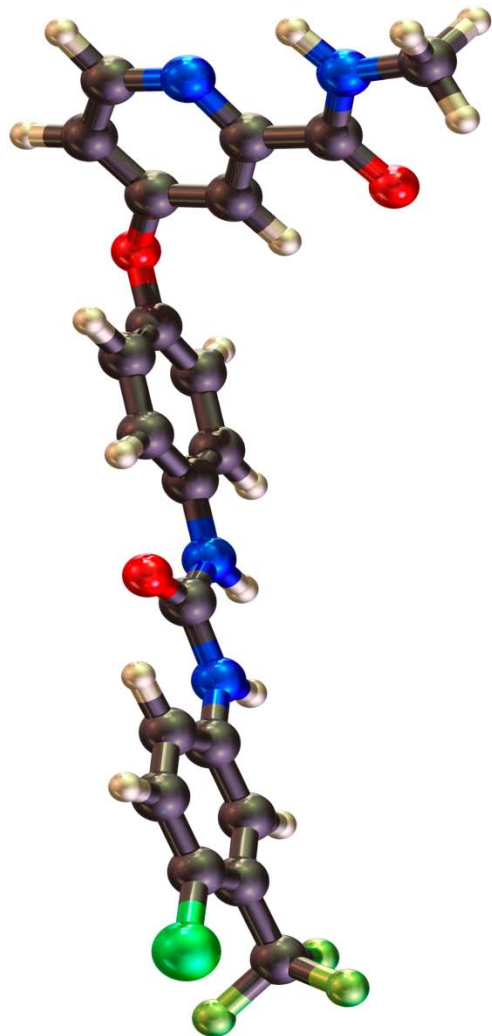


# Lysine-specific histone demethylases (KDM) Library

ChemDiv Inc.  
2016



# Knowledge Mining Sources

PubChem Database



Thomson Integrity



SciFinder



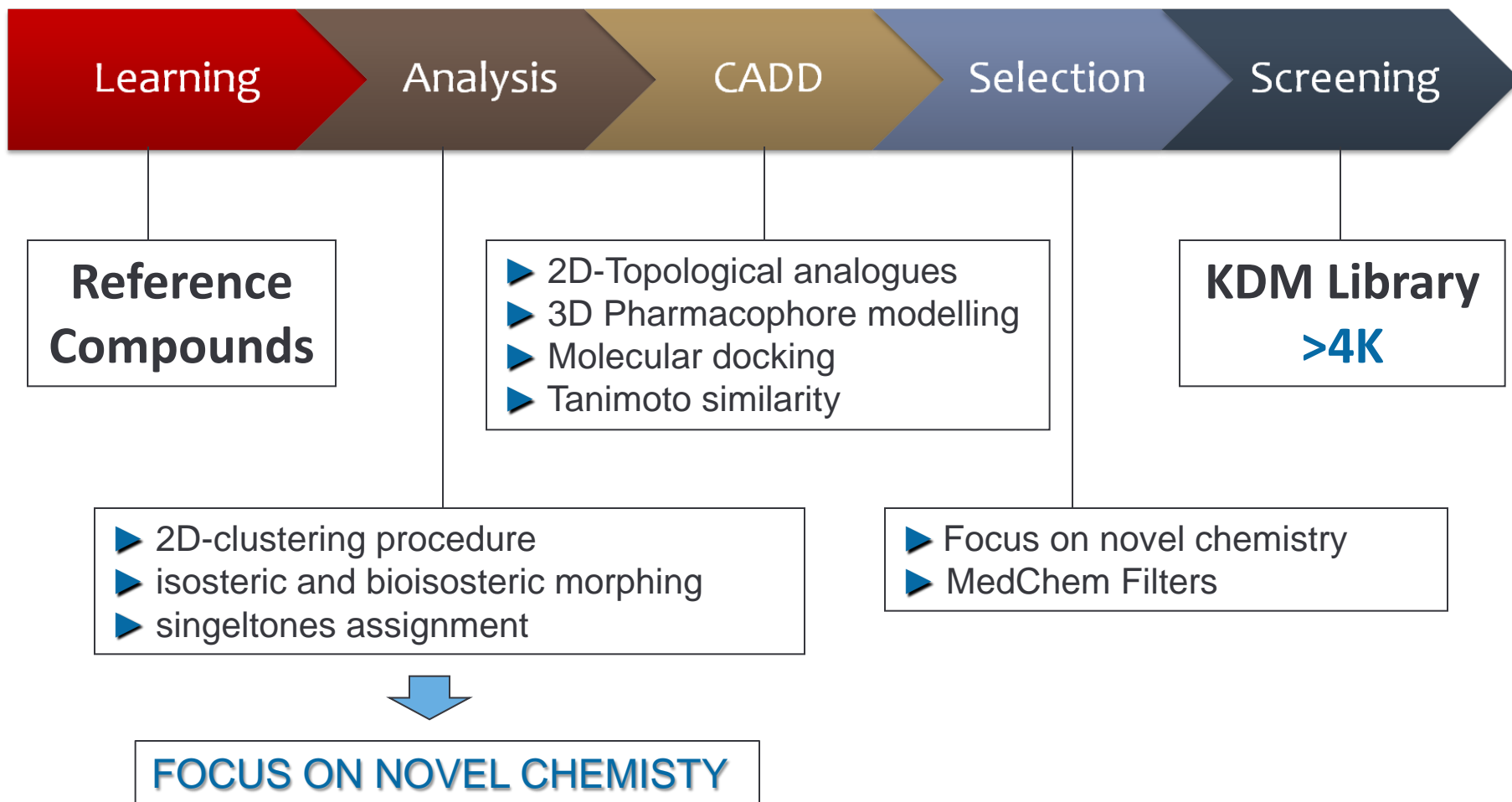
Protein Data Bank



Scientific publication & Patents (2010-2016)

# Knowledge Progression & Selection

3



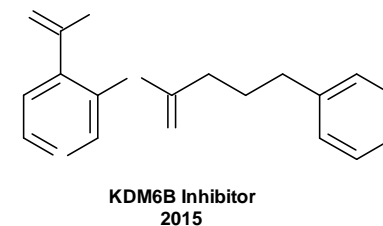
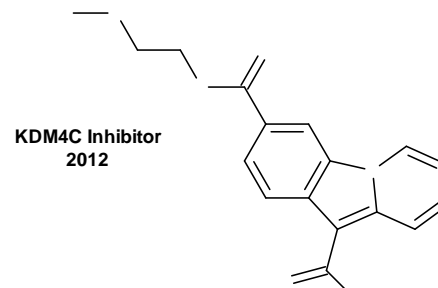
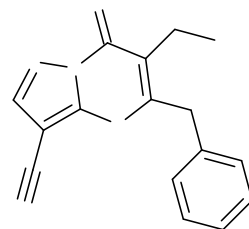
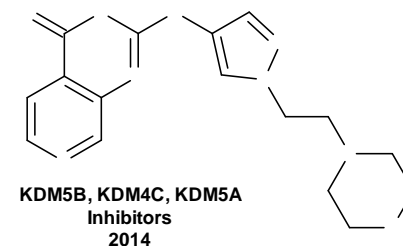
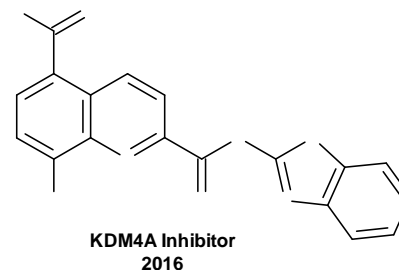
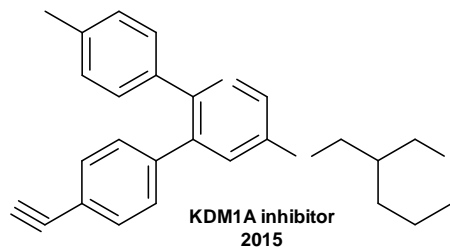
# Reference Compounds (Examples)

4

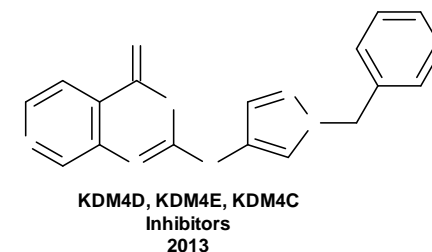
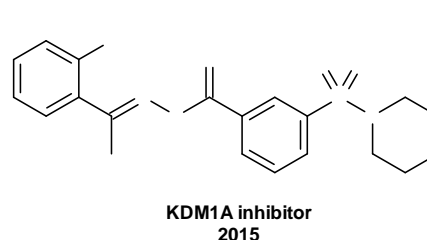
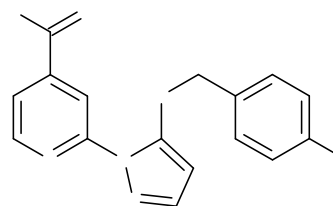
Disclosed since 2012

## Targets

KDM1A,B (LSD1,2)  
KDM4 (JMJD2)  
KDM5 (JARID1)  
KDM6



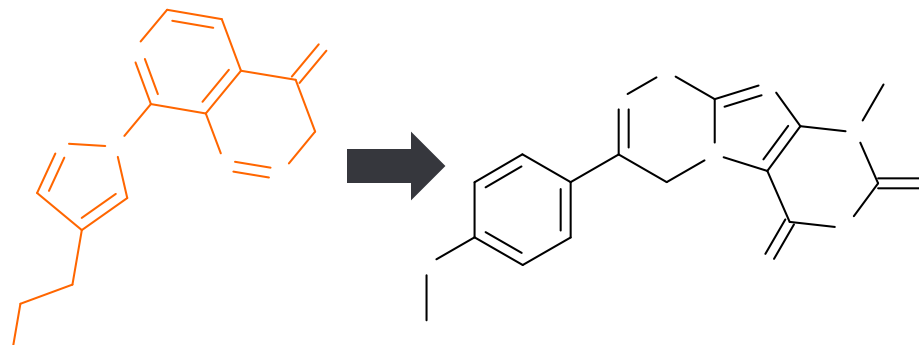
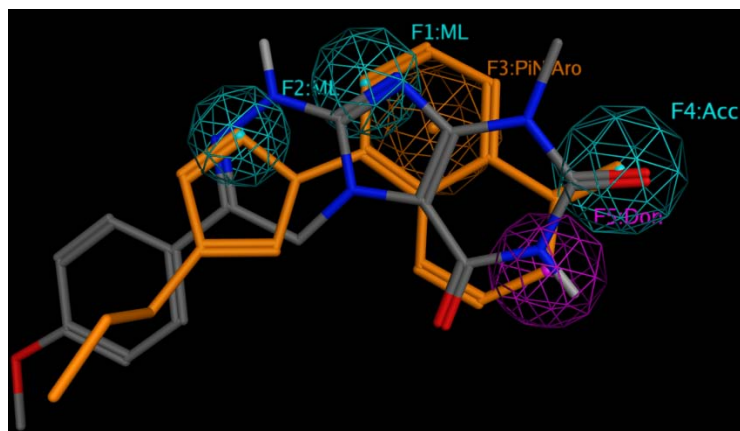
KDM5B, KDM4C, KDM5A  
Inhibitors  
2014



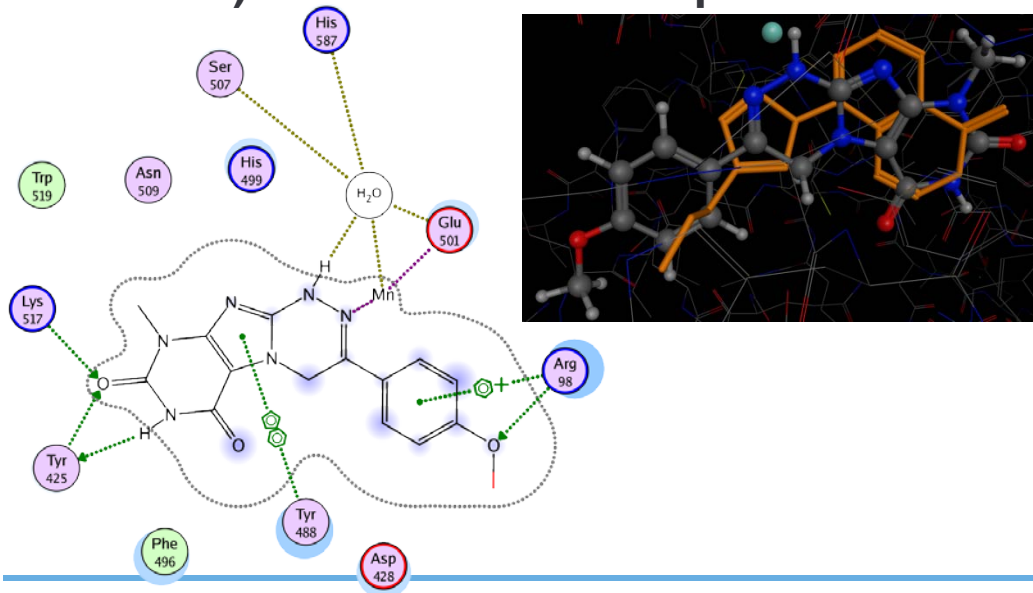
# Methodology for Compound Selection

5

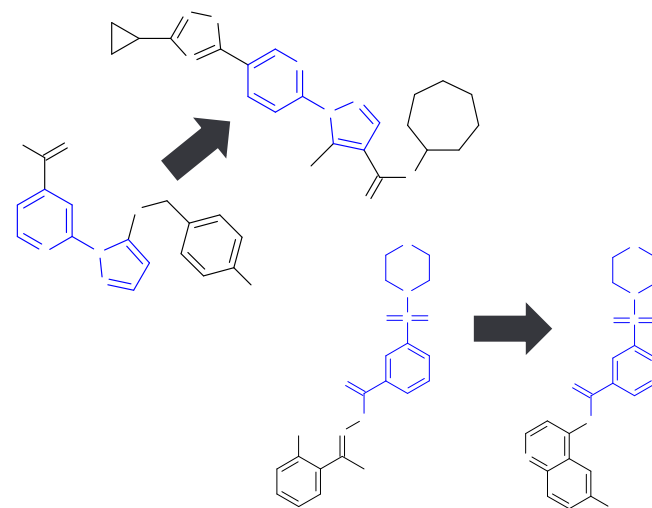
Pharmacophore modelling (orange – KDM5 Inhibitor)



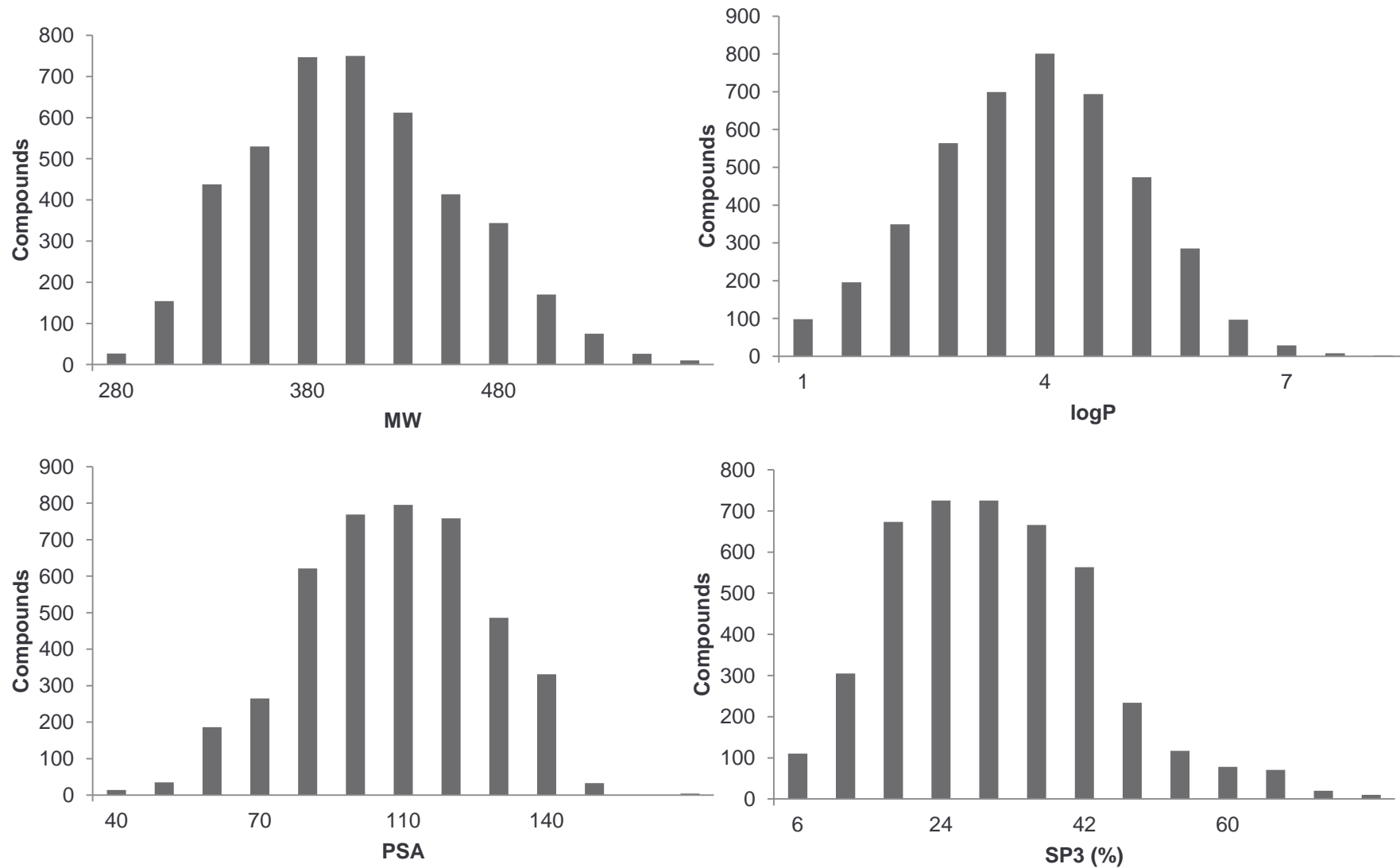
Example of KDM Library compound (balls and sticks) docked into KDM5 protein structure



Tanimoto similarity



# Descriptor Distributions



# KDM Library Statistics

Clusters (Tanimoto metrics, min cmpds per cluster – 5, similarity threshold 0.6): **183**

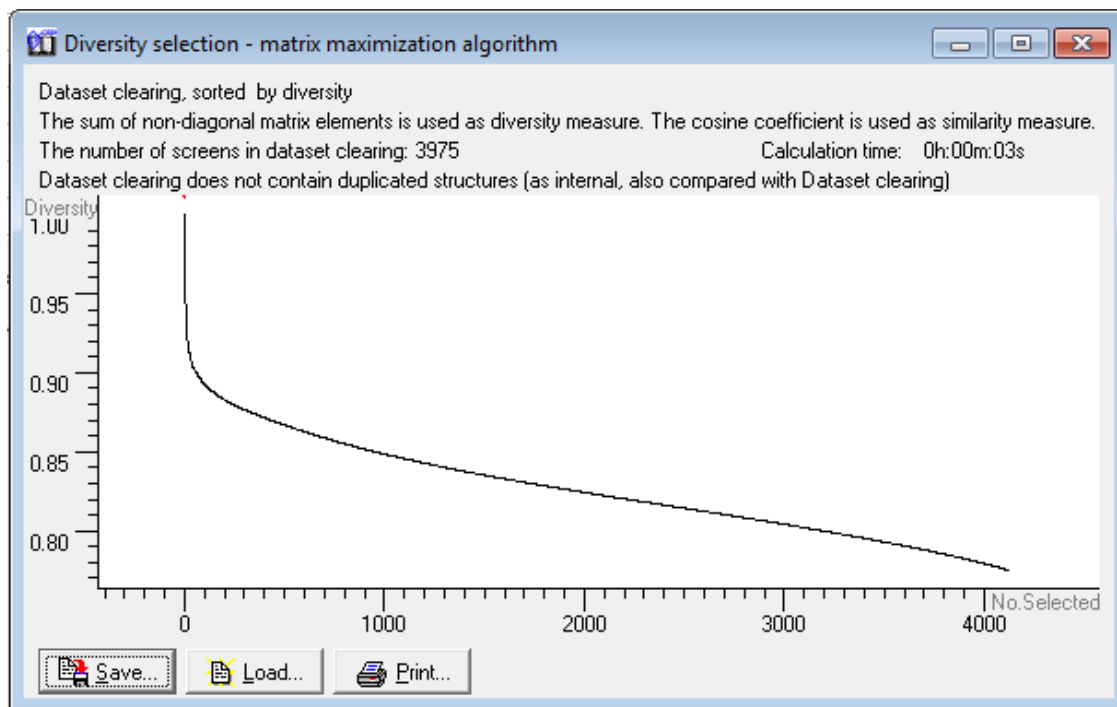
Singeltones: **789**

Av. structures in cluster: **18**

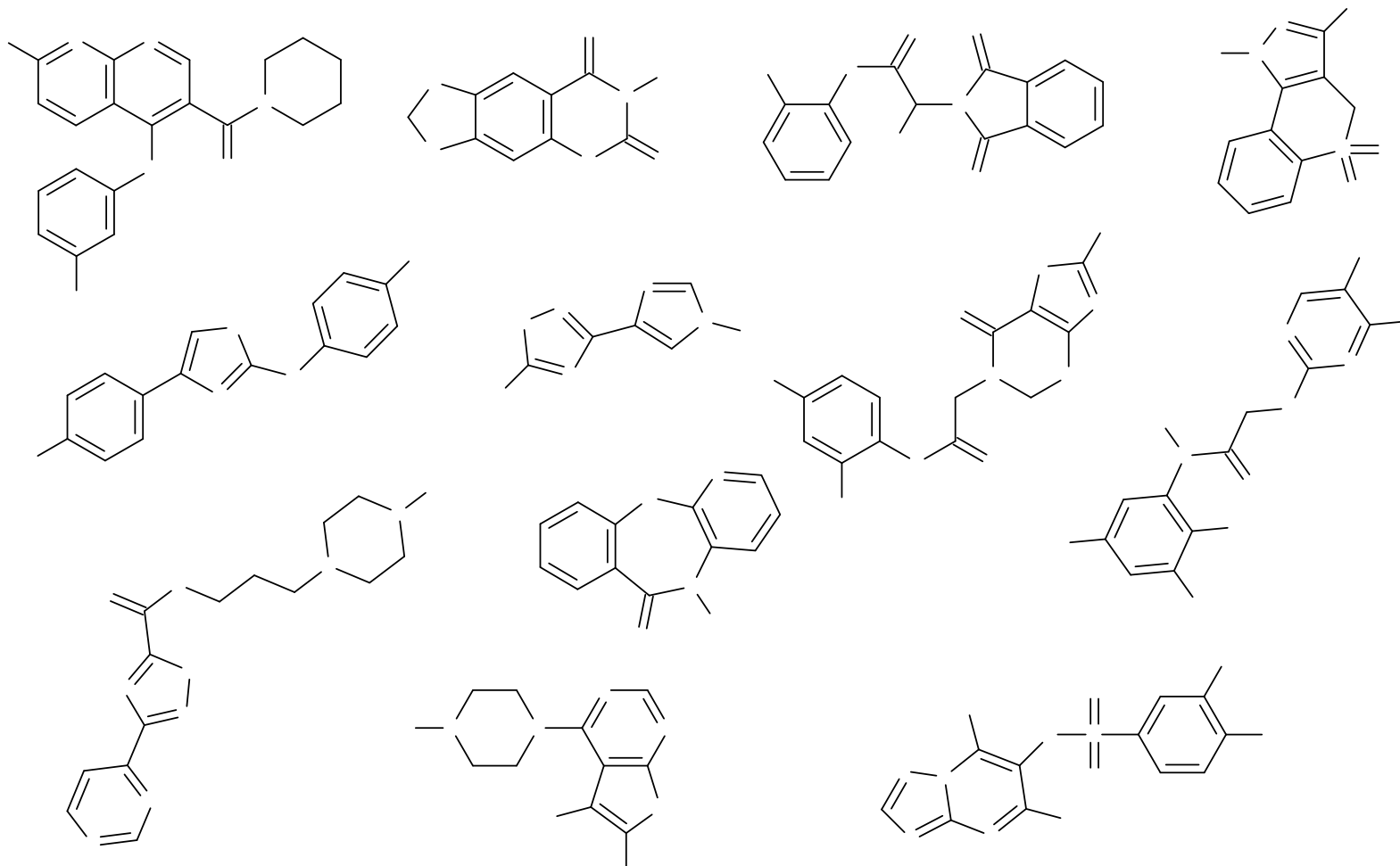
Screens: **3975**

Diversity: **0.78**

## Diversity Plot

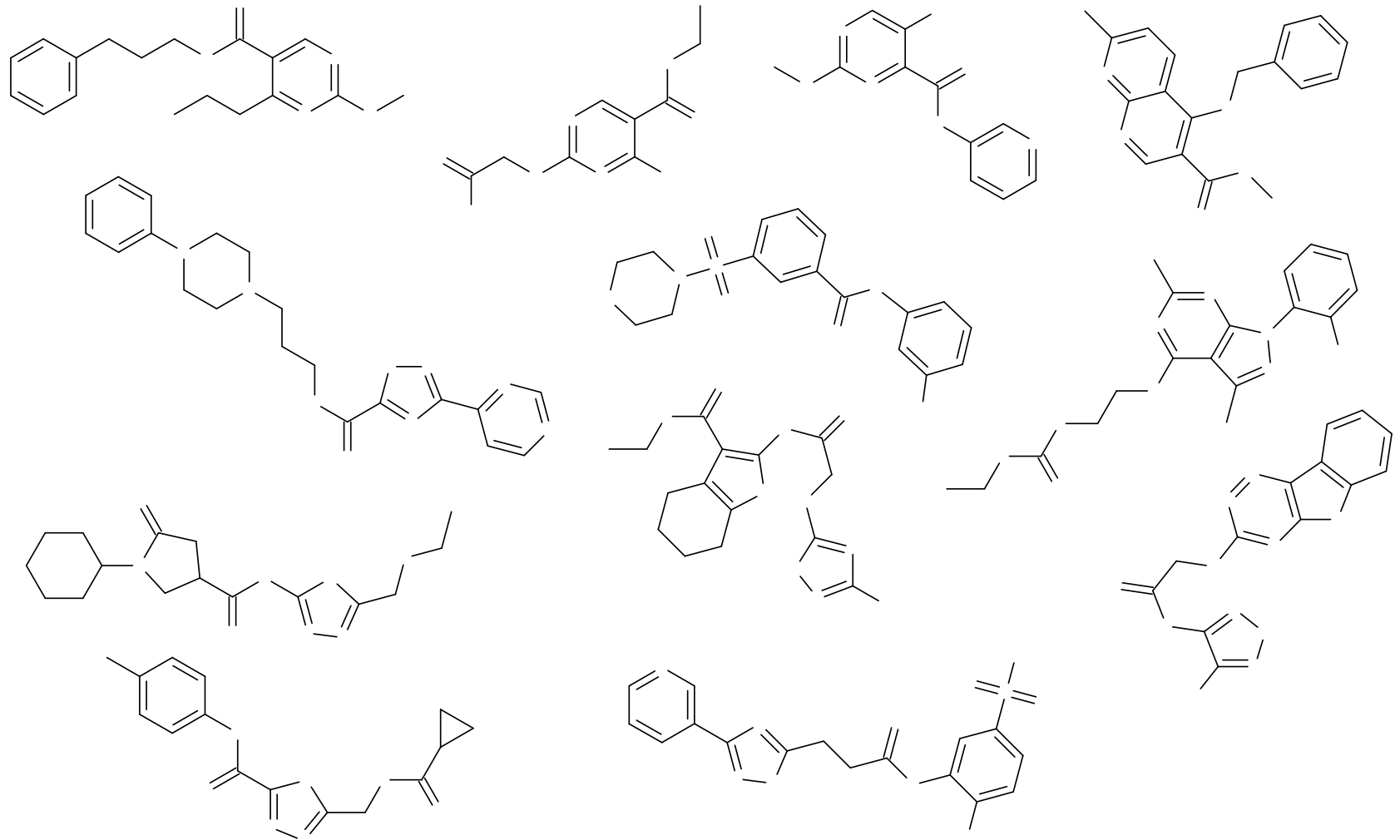


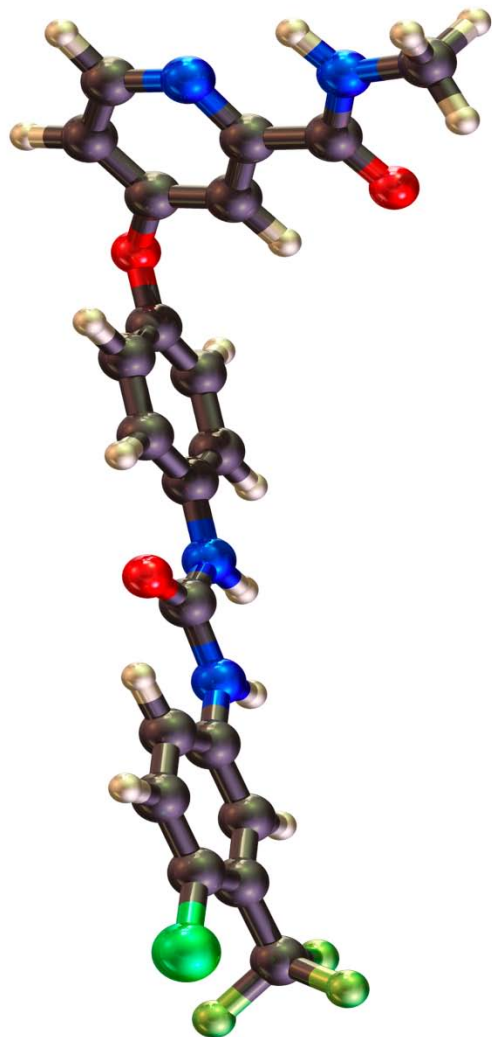
# Examples of Scaffolds





# Examples of Compounds





Thank you

