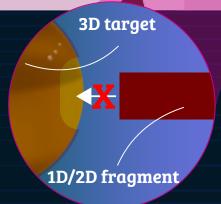
## Metallofragments as 3D Scaffolds for Fragment- Based Drug Discovery

Fragment-based drug discovery (FBDD) is a successful strategy for the discovery of small molecule therapeutics



However, the linear (1D) or planar (2D) shape of organic fragments limits a more complete exploration of chemical shape for target protein binding

Inert metal complexes or metallofragments (mFs) can be used to construct 3D fragment libraries

An mF library with 13 classes of metal complexes was designed, synthesized, and characterized

## mF library of 71 molecules



3-dimensionality

Principle moment of inertia (PMI) analysis



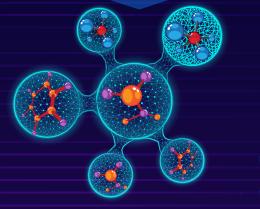
77% populating in the 3D region





Screening against biological targets

## Viral, bacterial and anti-cancer targets



## Broad range of biological responses

mF libraries access underutilized 3D fragment space for FBDD against a variety of protein targets, which could lead to new opportunities in drug discovery





Expanding Medicinal Chemistry into 3D Space: Metallofragments as 3D Scaffolds for Fragment-Based Drug Discovery Cohen *et al.* (2020) DOI: 10.1039/C9SC05586J

