Predict drug bound Predict drug bound pockets from apo Identify drug pockets from apo structures from bound pockets structures from positive dataset negative dataset **Build** positive **Build** negative structural signature structural signature using hierarchical using hierarchical clustering clustering Align positive Align negative structural signature structural signature to database to database Compare positive and negative scores to predict top targets Predict binding affinity using docking score and statistical significance In vitro validation of targets using microscale thermophoresis