**Scope of Work**

**University of Maryland College Park**

Dr. Lyle Isaacs will act as co-Investigator for this R01 application with Dr. David Mobley, Contact PI, from the University of California, Irvine. The specific subcontract work that Dr. Isaacs will perform at the University of Maryland is detailed in Specific Aim 2. The work includes the re-synthesis of several known CB[n]-type receptors including Me4CB[8], glycoluril hexamer, and acyclic CB[n]-type containers with different anionic solubilizing groups. We will determine the binding constants for the interaction of each host with a panel of 15 active pharmaceutical agents by direct or competition isothermal titration calorimetry, UV/Vis, fluorescence, or NMR studies. The host:guest stoichiometry and the host•guest geometries will also be determined by appropriate analytical tools. The work will provide blinded datasets to allow the computational chemists to refine their methods for the determination of binding free energy in situations where both guest and host may be conformationally flexible, where pKa shifts may occur, where 1:1 and 1:2 host-guest binding stoichiometries are possible, and where guests may present 2 or more binding epitopes.