

**P006** Design and synthesis of macrocyclic peptides toward the formation of synthetic nanopores

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Cyclic peptides are known to exhibit a wide range of biological activities, but they also have the ability to complex ions and small molecules. They can also form ion channels by auto-assembly, which is a subject under study by several research groups. We have devised a unique strategy to exploit these known properties of cyclic peptides to prepare ion and molecular channels and thus creating synthetic nanopores. We will report the design and synthesis of model macrocyclic peptides, as well as results from a novel methodology involving cyclization-cleavage reactions on solid support as the key step. We will also present the results of model cyclization reactions and the influence of different parameters on these reactions. Finally, the use of macrocyclic peptides in the synthesis of artificial nanopores will be presented.