

Washington University in St. Louis

Washington University Open Scholarship

Volume 12

Washington University
Undergraduate Research Digest

Spring 2017

Synthesis of Bifunctional Molecules and their A β -Binding Ability

Justin Chu

Washington University in St. Louis

Follow this and additional works at: https://openscholarship.wustl.edu/wuurd_vol12

Recommended Citation

Chu, Justin, "Synthesis of Bifunctional Molecules and their A β -Binding Ability" (2017). *Volume 12*. 33.
https://openscholarship.wustl.edu/wuurd_vol12/33

This Abstracts A-I is brought to you for free and open access by the Washington University Undergraduate Research Digest at Washington University Open Scholarship. It has been accepted for inclusion in Volume 12 by an authorized administrator of Washington University Open Scholarship. For more information, please contact digital@wumail.wustl.edu.

SYNTHESIS OF BIFUNCTIONAL MOLECULES AND THEIR A β -BINDING ABILITY

Justin Chu

Mentor: Liviu Mirica

In Alzheimer's disease (AD), abnormal interactions between the amyloid β (A β) peptides and Cu and Zn ions have been proposed to be a factor in the progression of the disease. In order to combat these interactions, a library of stilbene-derived molecules were synthesized which are known to have an affinity to A β peptides. Macrocyclic amine-containing molecules were also synthesized as they have metal chelating properties. These stilbene derivatives were then attached to the chelating macrocycle through the Mannich reaction. Current studies are probing the metal and A β -binding effectiveness of these synthesized bifunctional molecules, both *in vitro* and in living cells.