

# **Rationally designed peptoids modulate aggregation of amyloid-beta 40**

J. Phillip Turner,<sup>†</sup> Tammy Lutz-Rechtin,<sup>†</sup> Kelly A. Moore,<sup>‡,Ψ</sup> Lauren Rogers,<sup>†</sup> Omkar Bhave,<sup>†</sup> Melissa A. Moss,<sup>‡</sup> and Shannon L. Servoss<sup>\*,†</sup>

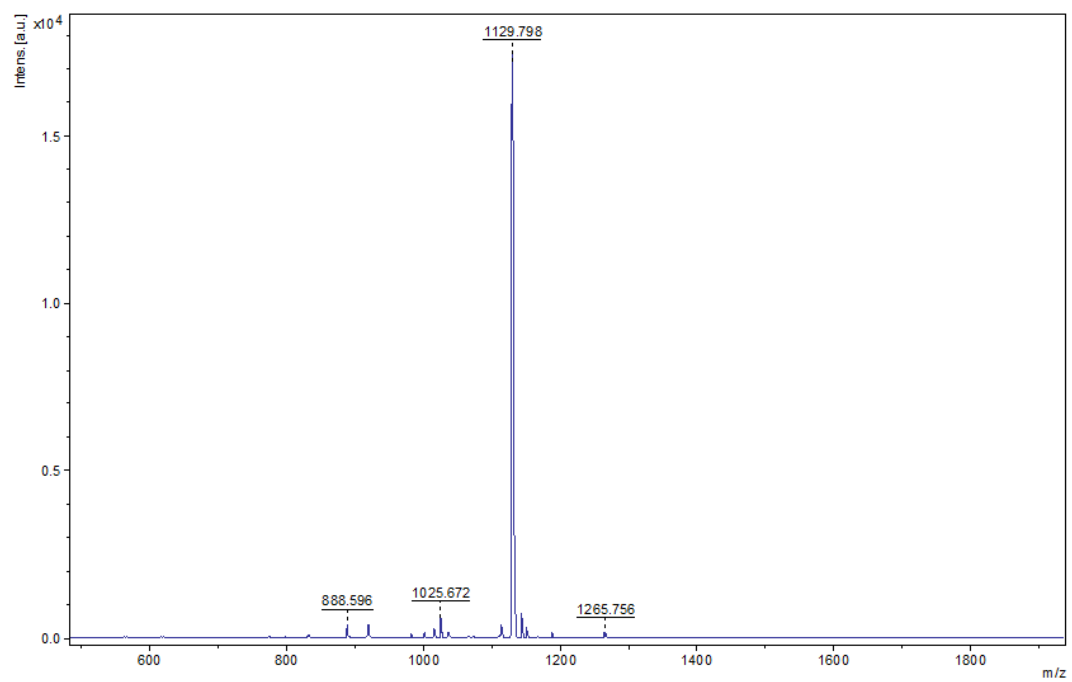
<sup>†</sup>Department of Chemical Engineering, University of Arkansas, 3202 Bell Engineering Center, Fayetteville, Arkansas 72701, United States

<sup>‡</sup>Department of Chemical Engineering, University of South Carolina, 2C02 Swearingen Engineering Center, Columbia, South Carolina 29208, United States

\*Correspondence: [sservoss@uark.edu](mailto:sservoss@uark.edu)

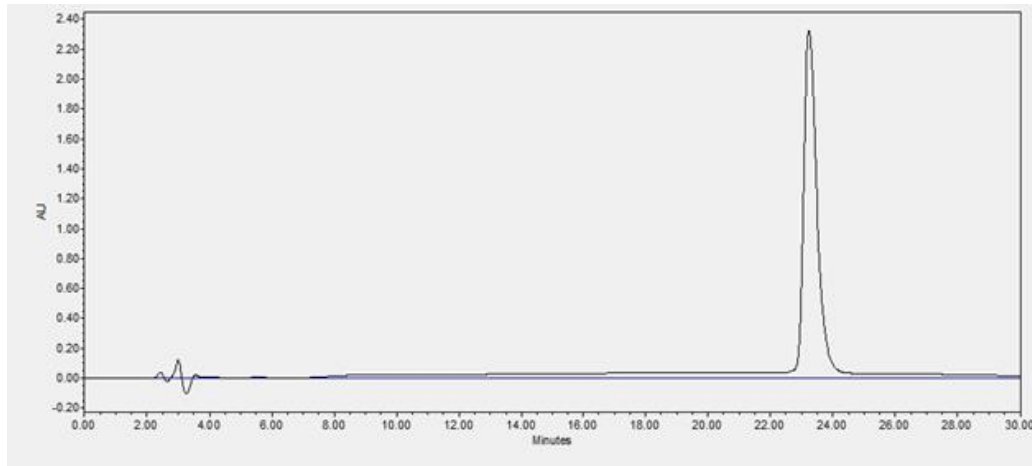
<sup>Ψ</sup> PresentAddress: Department of Molecular Physiology and Biophysics, Baylor College of Medicine, One Baylor Plaza BCM335 Houston, Texas 77030

## Matrix-assisted laser desorption/ionization mass spectrometry



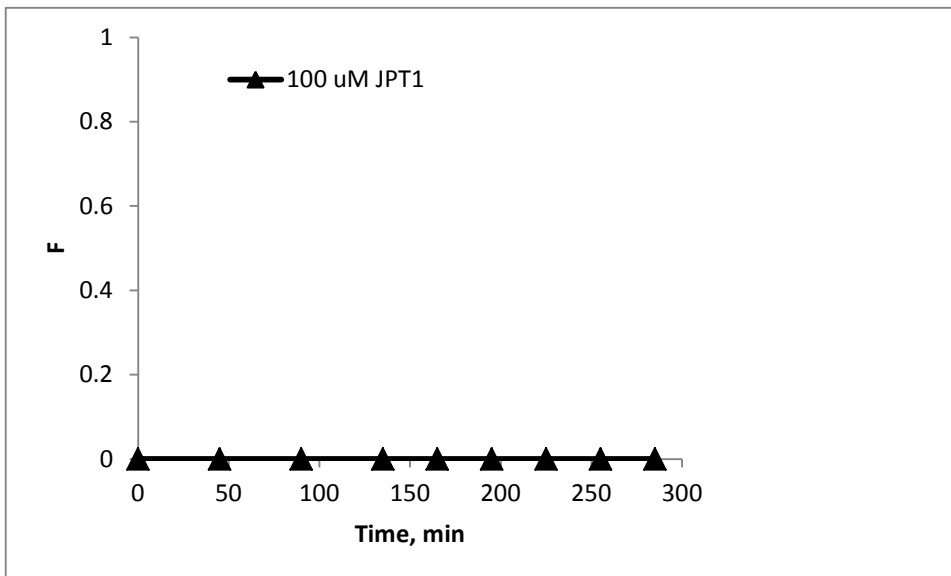
**Figure S1.** MALDI-TOF mass spectrometry was used to confirm that the purified peptoid mass matched the theoretical mass. Peptoid JPT1 theoretical mass was 1130.48 Da.

## Analytical reverse-phase high pressure liquid chromatography



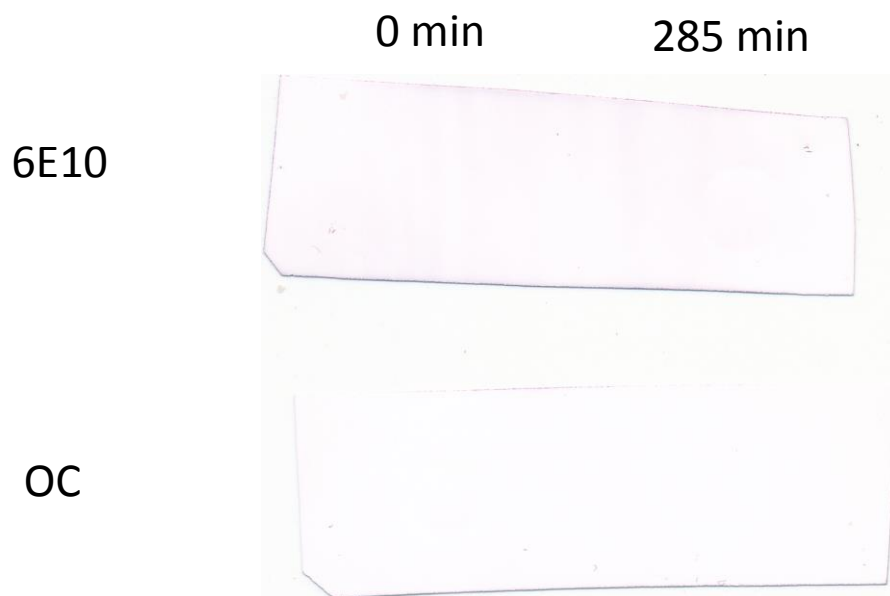
**Figure S2.** Peptoids were confirmed to be >98% pure via analytical HPLC (Waters 2695 Separations Module) equipped with a Duragel G C18 150 x 2.1 mm column (Peeke Scientific) using a linear gradient of 5 to 95% solvent D in C (solvent D: acetonitrile, 0.1% TFA; solvent C: water, 0.1% TFA) over 30 min.

## Aggregation Studies via ThT Fluorescence



**Figure S3.** ThT analysis shows that peptoid JPT1 does not aggregate in the absence of A $\beta$ 40. The presence of  $\beta$ -sheet aggregates was detected by ThT fluorescence. Aggregation assays were in 40 mM Tris-HCl (pH 8.0) and 150 mM NaCl. Peptoid JPT1 was dissolved in DMSO and added at 100  $\mu$ M such that the final DMSO concentration was 1.25% (v/v). Assays were performed at 25  $^{\circ}$ C under agitation on an orbital shaker at 800 RPM.

## Dot Blot Analysis



**Figure S4.** Dot blot analysis shows that peptoid JPT1 does not bind to sequence-specific antibody 6E10 or conformation-specific antibody OC in the absence of A $\beta$ 40. Samples were spotted at 0 min and 285 min, respectively.