NFL & GFAP: Selection and bio-informatic analysis of the selected pools is scheduled to conclude 3rd semester. Pools were well and progressively enriched under the applied selection process and functionalization of GFAP and NFL aptamer is scheduled to initiate in 3rd semester.

Aß40 and Aß42: A set of candidate aptamer sequences with high interaction scores and secondary structures for the beta-amyloid peptide (1-42) sequence has been generated and currently evaluated. These results will serve as a baseline for continued exploration using more advanced models and computational strategies. A new selection based on discussions with Steering committee members, clinical partners and external experts is anticipated within 3rd semester.

pTau217, pTau231: Commercial availability issues. The required quantity and desired form of protein are not available commercially. A new selection based on discussions with Steering committee members, clinical partners and external experts is anticipated within 3rd semester.

MNPs-Aptamer conjugation: Next steps involve fine-tuning the synthesis parameters to exert precise control over the size of the nanoparticles, in their core and shell dimensions. This adjustment will enable us to tailor the properties of the nanoparticles to better suit our intended applications in biomarker binding and quantitative analysis applying binding protocol that succeeded with thrombin. This protocol will be applied with in-house MNPs on suggested aptamers from GFAP and NFL within 3rd semester and on Aβ an pTau candidates once selection process concludes (expected 4th semester).