

Novel Theranostic Agents for Alzheimer's Disease

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This project focuses on the development of multifunctional compounds with high affinity for β -amyloid peptide aggregates and metal ions as potential positron emission tomography (PET) imaging agents for early diagnosis of Alzheimer's disease. We have successfully synthesized a series of benzothiazole, stilbene, and benzofuran-furfuryl bifunctional compounds with nanomolar affinity for β -amyloid aggregates.¹⁻³ Radiolabeling with Cu-64 generates PET imaging agents that show appreciable in vivo brain uptake, leading to the successful PET imaging of β -amyloid aggregates in the brains of 5xFAD mice versus those of WT mice.⁴⁻⁹

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