

A Gallium Fluoride-18 Complex with a Pentadentate Macrocyclic Ligand for Potential Diagnostic Imaging of Alzheimer's Disease

HuiJing Koay,¹ Mohammad B. Haskali,^{2,3} Jessica Van Zuylekom,^{3,4} Carleen Cullinane,^{†3,4} Catriona A. McLean,⁵ Jonathan M. White,¹ Peter D. Roselt,^{2,3} and Paul S. Donnelly*¹

¹School of Chemistry and Bio21 Molecular Science and Biotechnology Institute, University of Melbourne, Melbourne, Victoria 3010, Australia.

²Department of Radiopharmaceutical Sciences, Cancer Imaging, Peter MacCallum Cancer Centre, Melbourne, Victoria 3000_Australia

³Sir Peter MacCallum Department of Oncology, The University of Melbourne, Victoria 3010, Australia

⁴Models of Cancer Translational Research Centre, Research Division, Peter MacCallum Cancer Centre, 305 Grattan Street, Melbourne, Victoria 3000, Australia.

⁵Department of Anatomical Pathology, The Alfred Hospital, Victoria 3181 Australia and The Florey Institute of Neuroscience and Mental Health, University of Melbourne, Melbourne, Victoria 3010, Australia

[†] Deceased

*corresponding author e-mail: pauld@unimelb.edu.au

Supporting Information

Table of Contents

- Figure S1. UV-vis spectra of $H_2L^1 \cdot xHCl$, $[GaL^1Cl]$ and $[GaL^1F]$ (a), emission spectra of $H_2L^1 \cdot xHCl$ (1 μM), $[GaL^1Cl]$ (10 μM), and $[GaL^1F]$ (10 μM) (c).

- Figure S2. Human brain tissue sections from the frontal cortex of a subject with clinically diagnosed AD (a, c) and aged-matched control (b, d) at 10 x magnification.

- Figure S3. RP-HPLC chromatogram (radiation detection) of purified $[^{18}F][GaL^1F]$ incubated in PBS.

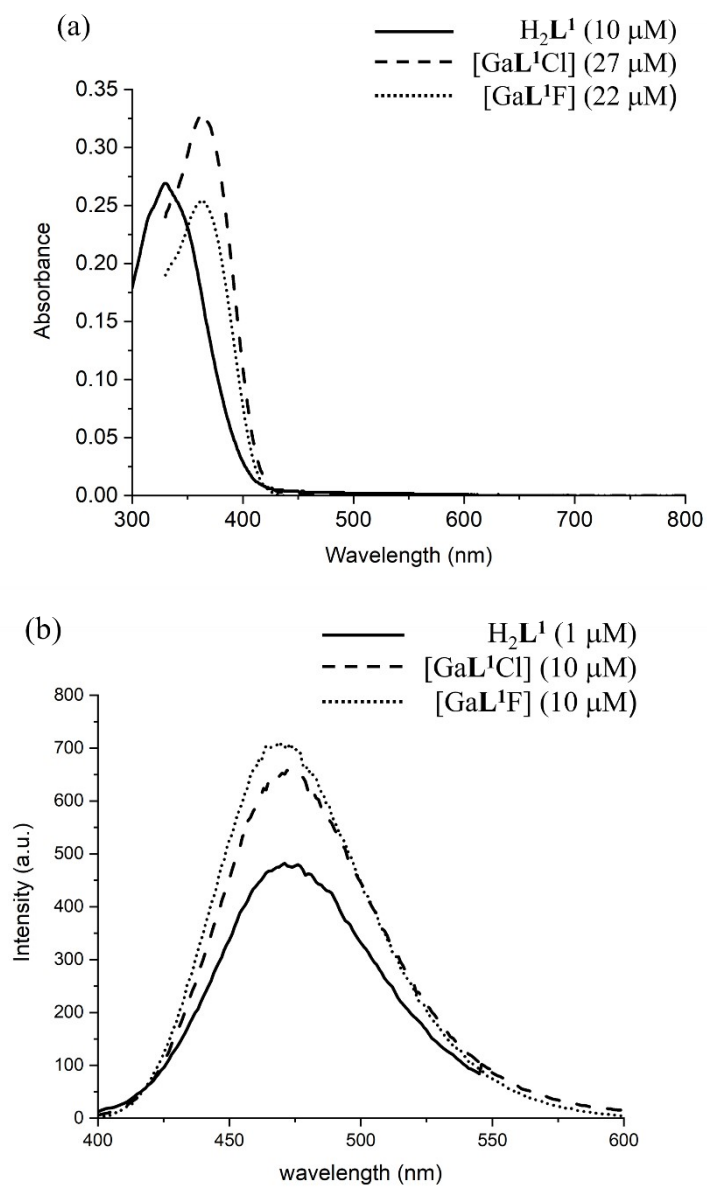


Figure S1. UV-vis spectra of $\text{H}_2\text{L}^1 \cdot x\text{HCl}$, $[\text{GaL}^1\text{Cl}]$ and $[\text{GaL}^1\text{F}]$ (a), emission spectra of $\text{H}_2\text{L}^1 \cdot x\text{HCl}$ (1 μM), $[\text{GaL}^1\text{Cl}]$ (10 μM), and $[\text{GaL}^1\text{F}]$ (10 μM) (c).

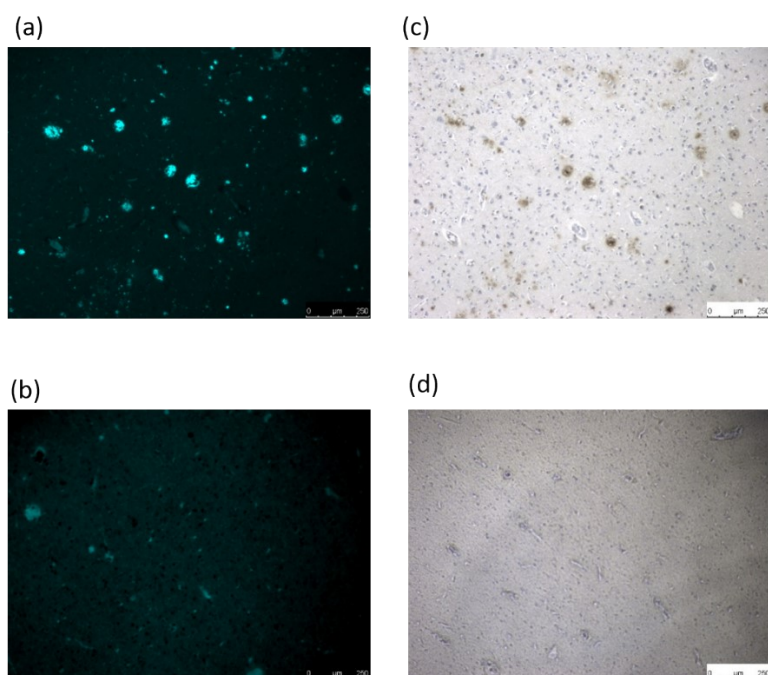


Figure S2. Human brain tissue sections from the frontal cortex of a subject with clinically diagnosed AD (a, c) and aged-matched control (b, d) at 10 x magnification. Images on the left are tissue section treated with $H_2L^1 \cdot xHCl$ visualised with epi-fluorescent microscopy ($\lambda_{ex} = 359 \text{ nm}$, $\lambda_{em} = 461 \text{ nm}$) (a, b). Images on the right are adjacent tissue sections immunohistochemically stained with the $A\beta_{1-42}$ selective 1E8 antibody, visualised using bright-field microscopy (c, d).

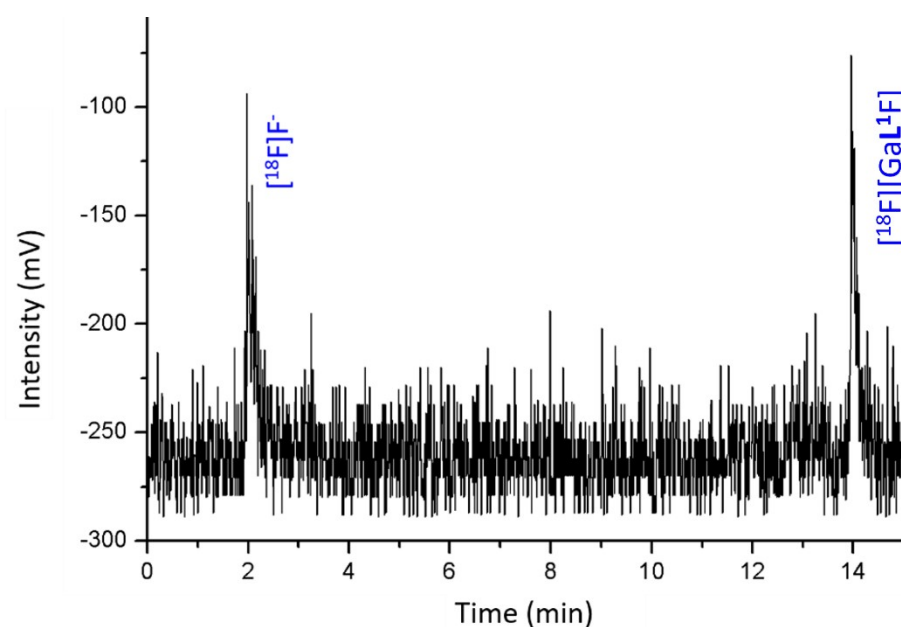


Figure S3. RP-HPLC chromatogram (radiation detection) of purified $[^{18}F][GaL^1F]$ incubated in PBS.