

## Supporting Information

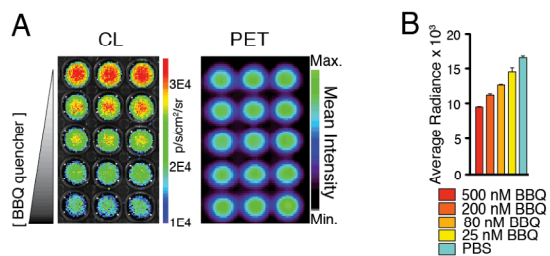
### **Radiation-Luminescence-Excited Quantum Dots for in vivo Multiplexed Optical Imaging**

*Daniel L.J. Thorek, Sudeep Das, Jan Grimm\**

Assistant Prof. DLJ Thorek. Division of Nuclear Medicine, Department of Radiology and Radiological Sciences, The Johns Hopkins School of Medicine, Baltimore, MD, 21205

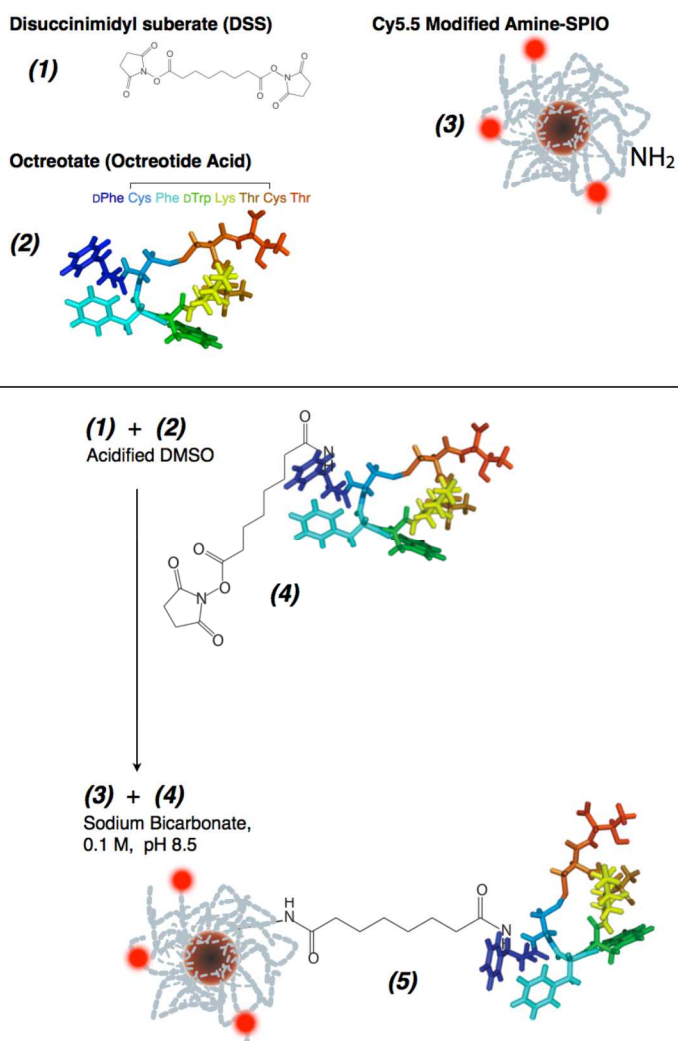
S. Das, Assistant Prof. J Grimm. Program in Molecular Pharmacology and Chemistry, Memorial Sloan-Kettering Cancer Center, New York, New York, 10021. USA. E-mail: [grimmj@mskcc.org](mailto:grimmj@mskcc.org).

(See next page).



**Figure S1. Small Molecule Quenching of CL.**

A constant amount of [ $^{18}\text{F}$ ]-FDG and an increasing concentration of a strongly absorptive small molecule were commixed in triplicate. (A) A dose-dependent absorption of [ $^{18}\text{F}$ ]-FDG produced Cerenkov radiation can be observed with increasing Blackberry Quencher 650 (BBQ) concentration. The PET signal remains constant, (B) while the light output decreases proportional to the amount of quencher added.



**Figure S2. Conjugation Scheme for Cy5.5-SPIO-OCT.**

The strategy for conjugating iron oxide nanoparticles to octreotate is displayed. Here, DSS was used to activate the octreotate which was then covalently bound to the Cy5.5-SPIO. Care was taken to not inactivate the octreotate through selective modification of the terminal amine, as validated by targeted particles strong affinity for hSSTR2 cells using FACS.