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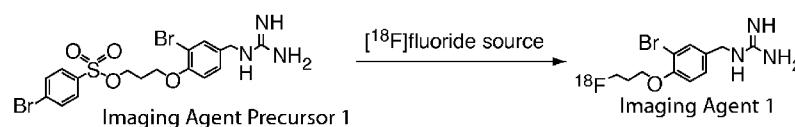


Fig. 1

(57) Abstract: The present invention generally relates to novel synthetic methods, systems, kits, salts, and precursors useful in medical imaging. In some embodiments, the present invention provides compositions comprising an imaging agent precursor, which may be formed using the synthetic methods described herein. An imaging agent may be converted to an imaging agent using the methods described herein. In some cases, the imaging agent is enriched in ^{18}F . In some cases, an imaging agent including salt forms (e.g., ascorbate salt) may be used to image an area of interest in a subject, including, but not limited to, the heart, cardiovascular system, cardiac vessels, brain, and other organs.