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(54) **Title:** QUATERNARY TRYPTAMINES AND THEIR THERAPEUTIC USES

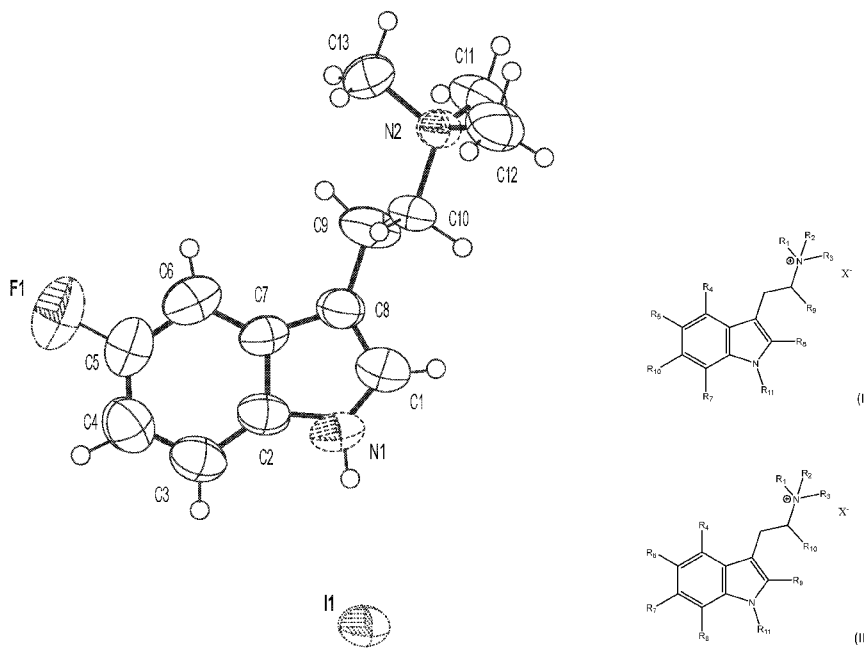


FIG. 1

(57) **Abstract:** The disclosure relates to compounds of formula (I): Among the substituents in a compound of formula (I), one of  $R_4$  and  $R_5$  is hydrogen and the other of  $R_4$  and  $R_5$  is  $-\text{OSC}_2\text{R}_6$ . The disclosure relates to compounds of formula (II): Among the substituents in a compound of formula (II),  $R_6$  is a halogen chosen from F, Cl, Br, and I. The disclosure relates to compositions comprising a compound of formulas (I) or (II) and an excipient. The disclosure relates to pharmaceutical compositions comprising a therapeutically effective amount of a compound of formulas (I) or (II). The disclosure relates to therapeutic uses of compounds of formulas (I) or (II). The disclosure relates to compounds of formula (II), including 5-fluoro-N,N,N-trimethyltryptammonium iodide, 5-fluoro-N,N,N-triethyltryptammonium iodide, 5-fluoro-N,N,N-tri-n-propyltryptammonium iodide,



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5-chloro-N,N,N-trimethyltryptammonium iodide, 5-chloro-N,N,N-triethyltryptammonium iodide, 5-bromo-N,N,N-triethyltryptammonium iodide, 5-bromo-N,N,N-tri-n-propyltryptammonium iodide, and 5-bromo-N,N,N-tri-n-propyltryptammonium iodide acetonitrile solvate and their crystalline forms and their compositions and uses.