



THE PREPARATION AND PURIFICATION OF (S)- AND (R)-[¹¹C]NICOTINE FOR IN VIVO DISTRIBUTION IN ANIMALS BRAIN USING PET.

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The preparation and purification of (S)- and (R)-[¹¹C]nicotine was prepared by N-methylation with ¹¹C Methyl iodide of the appropriate secondary amine, which was liberated in situ by 2,2,6,6 -tetramethyl piperidine (TMP) from its corresponding biscamsylate salt. Reaction in acetonitrile for both (S)- and Straight-phase HPLC purification resulted in 15 - 20 % radiochemical yield (from EOB and decay - corrected) with a total synthesis time of 25 - 30 min, a specific radioactivity of 200 - 300 mCi. The uptake and distribution of (S) - and (R) - [¹¹C]nicotine in the monkey's brain was studied by PET.