

# Automated Preparation of [<sup>11</sup>C](+)-N-Methyl-3-piperidyl Benzilate from [<sup>11</sup>C]Methyl Triflate by Loop Method

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## Abstract

[<sup>11</sup>C](+)-N-Methyl-3-piperidyl benzilate ([<sup>11</sup>C]3NMPB) is a potential PET tracer for quantitative measurement of muscarinic receptors in the brain. It was prepared from [<sup>11</sup>C]methyl triflate by loop method. An automated synthesis system for <sup>11</sup>C-methylation, manufactured by SHI, was modified to adapt to the loop method by replacing solenoid valves and inserting a furnace heating an AgOTf column at 200°C. The automated system was successfully tested by preparing [<sup>11</sup>C]raclopride and then the target compound, [<sup>11</sup>C]3NMPB.