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(54) Title of the invention : SYNTHESIS AND CHARACTERIZATION OF 2-((4-ACETYLPHENYL) AMINO)-N-CYCLOHEXYLACETAMIDE

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(57) Abstract :

The present invention relates to the synthesis and characterization of a novel compound, 2-((4-acetylphenyl)amino)-N-cyclohexylacetamide, via a reflux-assisted nucleophilic substitution reaction. The synthesis involves reacting 2-Chloro-N-cyclohexylacetamide with para aminoacetophenone in the presence of anhydrous potassium carbonate and catalytic potassium iodide in acetonitrile. The crude product is purified by recrystallization from ethanol. The compound's structure is confirmed by IR and ¹H-NMR spectroscopy, indicating the successful formation of the target molecule with characteristic functional groups. This novel acetamide derivative, combining aromatic and aliphatic moieties, offers a promising scaffold for potential pharmaceutical applications. The invention provides a straightforward synthetic route for producing this compound with good purity and reproducibility, laying the foundation for further biological evaluation and drug development.

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