पेटेंट कार्यालय
शासकीय जर्नल

OFFICIAL JOURNAL
OF
THE PATENT OFFICE

निर्गमन सं. 52/2024	शुक्रवार	दिनांक: 27/12/2024
ISSUE NO. 52/2024	FRIDAY	DATE: 27/12/2024

पेटेंट कार्यालय का एक प्रकाशन
PUBLICATION OF THE PATENT OFFICE

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :13/11/2024

(21) Application No.202411087378 A
(43) Publication Date : 27/12/2024

(54) Title of the invention : SYNTHESIS AND ANTIBACTERIAL POTENTIAL OF 2-((3-ACETYLPHENYL) AMINO)-N-CYCLOHEXYL ACETAMIDE

(51) International classification :A61P31/04, C07C231/02
(86) International Application No :NA
Filing Date :NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

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(57) Abstract :
The compound 2-((3-acetylphenyl)amino)-N-cyclohexylacetamide was synthesized to explore its antibacterial potential. Synthesis began with the reaction of cyclohexylamine in 2N aqueous sodium hydroxide with chloroacetyl chloride, yielding 2-chloro-N-cyclohexylacetamide. This intermediate was then reacted with meta aminoacetophenone in acetonitrile in the presence of anhydrous potassium carbonate and a catalytic amount of potassium iodide, followed by reflux for 12 hours. The final product was isolated by vacuum distillation and recrystallized from ethanol. Antibacterial evaluation of 2-((3-acetylphenyl)amino)-N-cyclohexylacetamide against Bacillus subtilis and Escherichia coli demonstrated significant activity, with inhibition zones of 18 mm for each strain, comparable to ciprofloxacin. These findings suggest that 2-((3-acetylphenyl)amino)-N-cyclohexylacetamide holds promise as a potential antibacterial agent.

No. of Pages : 9 No. of Claims : 3