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(57) Abstract :
Green Process Chemistry in the Pharmaceutical Industry ABSTRACT The primary motivation for the current study is to concentrate on the first and ninth principles of green chemistry prevention and catalysis in order to safeguard the environment by reducing waste creation, whether it takes the form of solid waste, liquid waste, effluent, or gas emissions. Instead of using the stoichiometric amount of traditional bases as per prior art techniques, an innovative development of skill related to chemical pathways regarding N-alkylation, Hydrolysis, Oxidation, S-Alkylation, Knovengel condensation, and peptide transformations is carried out by adding, recovering, regenerating, and recycling, up to 3 cycles, only catalytic amount of century-old Hydrotalcite clay as heterogeneous solid base This idea is developed, synthesised, characterised, quantified, and compared using various Green Chemistry Metrics as tools with previously published work in an effort to partially improve the current perception of the pharmaceutical industries while also demonstrating its sustainability and industrial scalability. With the aid of calculations of several green chemistry metrics, this idea provides constant yield and quality characteristics up to three cycles of hydrotalcite, demonstrating a realistic greener strategy towards numerous organic reactions.

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