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Design, synthesis, and structure elucidation of novel 3-aralkyl/arylamino-1-pyridin-3-ylpropenones and 3-adamantyl-5-nicotinoyl-1,2,3,4-tetrahydropyrimidine hybrids with promising anti-inflammatory activities[§]

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Aiming for the synthesis of unreported molecular hybrids of 1,2,3,4-tetrahydropyrimidine and adamantane moiety containing nicotinoyl group in position 5 of the tetrahydropyrimidine ring suitable for use as anti-inflammatory agents, the precursor enaminones **3a–h** have been reacted with 1-adamantanamine **4** and formaldehyde under thermal conditions producing the desired products **5a–h**. The enaminone derivatives **3a–h** are obtained by reacting formylated 3-acetylpyridine **2** with various primary amines. The structures of (3-((3s,5s,7s)-adamantan-1-yl)-1-aralkyl/aryl-1,2,3,4-tetrahydropyrimidin-5-yl)(pyridin-3-yl)methanones **5a–h** prepared in this investigation have been determined by various analytical and spectroscopic methods, in addition to the X-ray crystallographic analysis. The anti-inflammatory study of the synthesized compounds demonstrates promising activity.

Keywords: Tetrahydropyrimidine, Anti-Inflammatory, Enaminones, X-Ray Crystallography, Nicotinoyl Group, Adamantane