

# Design and Synthesis of Novel Fused Heterocycles Using 4-Chromanone as Synthon<sup>1</sup>

K. A. Ali<sup>a</sup>, N. A. A. Abdelhafez<sup>a</sup>, E. A. Ragab<sup>b</sup>, A. A. Ibrahim<sup>a</sup>, and A. E. Amr<sup>a,c</sup>

<sup>a</sup> Applied Organic Chemistry Department, National Research Centre, Dokki, Giza, 12622 Egypt

<sup>b</sup> Chemistry Department, Faculty of Science, Cairo University, Giza, Egypt

<sup>c</sup> Pharmaceutical Chemistry Department, College of Pharmacy, Drug Exploration & Development Chair (DEDC),  
King Saud University, Riyadh, 11451 Saudi Arabia  
e-mail: aeamr1963@yahoo.com

Received August 7, 2015

**Abstract**—A new series of heterocyclic systems, including azole, azolopyrimidine, and pyridopyrimidine derivatives, attached to 2*H*-chromene scaffold, was prepared by a convenient procedure through the reactions of (*E*)-2-dimethylamino-methylene chromanone with different nitrogen binucleophiles. Various substituted chromeno[4,3-*b*]pyridine derivatives were also prepared through the reactions of (*E*)-2-dimethylamino-methylene chromanone with a series of active methylene compounds.

**Keywords:** 4-chromanone, pyrazole, pyrimidine, pyridine

**DOI:** 10.1134/S107036321512035X