Synthesis of new pyrimido[4,5-*d*]pyrimidin-4(1*H*)-one derivatives in the presence of ferric hydrogensulfate

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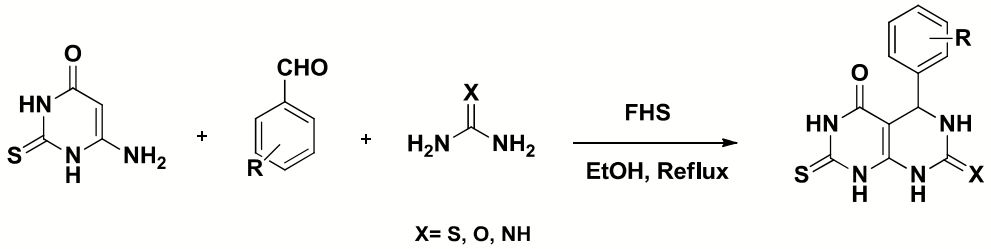
Pyrimidopyrimidines are bicyclic uracils that have attracted considerable interest in recent years [1]. Their derivatives have been known to display a wide range of pharmacological activities, and potent inhibitory properties. Numerous reports explain the antitumor,antiviral,antioxidant, antifungal, antiallergic, antihypertensive activities of these compounds [2-3].

In this report new derivatives of pyrimido[4,5-*d*]pyrimidine have been synthesized in a three-component, efficient and green process by condensation reaction of 6-amino-thiouracil, aldehydes and urea or thiourea or guanidine in the presence of ferric hydrogensulfate as catalyst in ethanol under reflux condition.The advantages of this method are high conversion and yield, simple experimental and workup procedure (Scheme 1).



Scheme 1.

References:

1. Dabiri, M, Arvin-Nezhad, H, Khavasi, H.R, Bazgir, A. *Tetrahedron* **2007**, 63, 1770-1774.
2. Gupta, R, Jain, A, Joshi, R, Jain, M. *Bull. Korean Chem. Soc.***2011**, 32,899-904.
3. Sharma, P, Kumar, A, Rane, N, Gurram, V. *Tetrahedron* **2005**, 61, 4237-4248.