3,4-Dihydropyrimidin-2(1H)-ones (thiones) and their derivatives have attracted great interest due to their promising biological effects, including antibacterial, antiviral, antitumor, antiinflammatory, antihypertensive, calcium channel blocker, α1a-antagonist and neuropeptide Y (NPY) antagonist activities [1].

In our previous study, we have reported the preparation of some 5-acetyl-3,4-dihydro-6-methyl-4-(substituted phenyl)-2(1H)-pyrimidinone derivatives by using the Biginelli three-component cyclocondensation reaction of substituted benzaldehyde, acetylacetone and thiourea [2]. In this study the in vitro antimicrobial activity of these compounds against Gram-positive bacteria (Staphylococcus aureus ATCC 29213, Enterococcus faecalis ATCC 292129), Gram-negative bacteria (Escherichia coli ATCC 25922, Pseudomonas aeruginosa ATCC 27853) and yeast-like fungi (Candida albicans ATCC 90028, C. krusei ATCC 6258, C. parapsilosis ATCC 90018) was investigated by microdilution broth method recommended by National Committee for Clinical Laboratory Standards (NCCLS) [3, 4]. The minimum inhibitory concentrations (MICs) were defined as the lowest concentrations of the compounds that prevented visible growth. Gentamicine and fluconazole were used as the standards for antibacterial and antifungal tests, respectively. It was found that compounds having 2- or 3-bromine substituents on the phenyl ring exhibited considerable antifungal activity against Candida species.

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\begin{align*}
\text{R: Various substituents}
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