Abstract

In the present work, design and synthesis of several substituted diarylthiazole **VIIIa,b** and **IXa-h**, diarylimidazole **XIIa,b** and **XIIIa-h**, thiazolidinone **XVI-XX** and **XXIV-XXVIII** were discussed. The rational for these compounds was discussed. Characterization of the chemical structure of the new compounds was done using spectral and elemental analyses. Evaluation of the anti-inflammatory and analgesic activity of the new compounds was performed by determination of the percentage of inhibition of edema for anti-inflammatory activity and number of writhing for analgesic activity. The most potent diarylthiazole compounds were **VIIIa,b** with IC_{50} of 4.21 µM and 4.56 µM against COX-1 respectively. The most potent diarylimidazole compounds were **XIIa,b** with IC_{50} of 6.32 and 7.09 µM against COX-1 respectively .