

Crystal Structure of 2-cyclohexyl-5-formyl-6-(4-bromophenyl) Imidazo[2,1-b] [1,3,4] Thiadiazole

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1,3,4-thiadiazole nucleus is associated with a broad spectrum of biological activities, possibly due to built in toxophoric thioamide (S-C=N-) unit. Biosteric nature with biologically significant thiazole moiety and its non-carcinogenic nature. A lot of work on the synthesis and biological activities of condensed imidazo(b) thiazoles has been reported since the discovery of novel broad spectrum anthelmintic, Tetramisole. The trend has been shifted to explore the drugs containing biosteric thiadiazole ring in place of thiazole ring of tetramisole viz., imidazo (2,1-b) -1,3,4-thiadiazoles and their derivatives. The title compound screens them for their pharmacological activities. Title compound will be good intermediates to synthesise various pharmacologically active compounds.

The compound crystallizes as colourless plates in monoclinic with space group $P2_1/n$ and cell dimensions $a=8.493(7)\text{\AA}$, $b=17.071(1)\text{\AA}$ and $c=11.875(1)\text{\AA}$. The structure was solved by SHELX97 program (Sheldrick 1997) and refined to a R factor of 0.0597. The details of the weak interactions are discussed in this paper.

Keywords: x-ray crystallography, small molecules, organic compounds