Synthesis and Structural Characterization of 3-(4-fluorophenyl)-2-(α -naphtyl)-1,3-thiazolidin-4-one

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One of the richest sources of diversity for the medicinal chemist is small heterocyclic rings, which in addition to often exhibiting biological activity, may serve as rigid scaffolds for further display of functionalities. Thiazolidine derivatives belong to an important family of these heterocyclic compounds. Substituted thiazolidines display diverse biological activities such as tuberculostatic, fungicidal, pesticidal, herbicidal, antidiabetic, anti-inflammatory and bactericidal. The biological significance of this kind of compounds urged us to study of the synthesis and physicochemical properties of some 3-aryl-2-(α -naphtyl)-4-thiazolidinones due to their possible biological activities. As part of our ongoing research program aiming at the search of structural chemistry and substituted thiazolidinone synthesis from accessible aldimines, we used α -naphtaldimines in the preparation of new series of 3-aryl-2-(α -naphthyl)-1,3-thiazolidin-4-ones.

The compound 3-(4-fluorophenyl)-2-(α -naphtyl)-1,3-thiazolidin-4-one crystallizes in a monoclinic cell with the cell parameters $a=10.6097 \text{Å}(5), \ b=10.8356 \text{Å}(5) \ c=13.2278 \text{Å}(6) \ \text{and} \ \beta=101.0850^{\circ}(10), \text{ Space group P2}_1/c [\text{No 14}], \ V=1492.33 \text{Å}^3 \ \text{and } Z=2.$ Keywords: thiazolidinone, structural characterization, single crystal