Crystal Structure of N'-(2-hydroxy-3-methoxy benzylidene)-4-nitrobenzenesulfonylhydrazide and 1,2-bis(2-hydroxy-3-methoxy-benzylidenehydrazine) as a co-crystalline compound

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Abstract: The reaction of 2-hydroxy-3-methoxybenzaldehyde with 4-nitrosulfonylhydrazide under refluxing led to co-crystalline compound contains N'-(2-hydroxy-3-methoxy benzylidene)-4-nitro benzenesulfonhydrazide (a sulfonamide-Schiff base compound) and 1,2-bis (2-hydroxy-3-methoxy-benzylidenehydrazine) (I). A medium strong hydrogen bonds in I links the oxygen atoms of one molecule of 1,2-bis(2-hydroxy-3-methoxy-benzylidenehydrazine) to the NH group of the N'-(2-hydroxy-3-methoxy benzylidene)-4-nitrobenzenesulfonhydrazide and is responsible for establishing of co-crystals. Compound I was characterized by NMR and IR spectroscopy, elemental analysis and single crystal X-ray diffraction method. Crystallographic data for I was collected at 95 K. The synthesized compound has been crystallized in monoclinic system with P21/n space group and a = 6.6771(2) Å, b = 19.2072(6) Å, c = 17.3980(1) Å, β = 95.56(3)° cell parameters. The final R value is 0.037 for 07 independent reflections.

Keywords: 4-nitrosulfonyl hydrazide; Schiff base; cocystal; Crystal structure.

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