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Synthesis of [1-(Substituted-Sulfonyl)-Piperidin-4-yl]-(2,4-Difluoro-Phenyl)-Methanone Oximes and Their Biological Activity

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Abstract : A series of new [1-(substituted-benzoyl)-piperidin-4-yl]-(2,4-difluoro-phenyl)-methanone oxime derivatives, 3(a-f) were synthesized and characterized by different spectral studies. All compounds were evaluated for their in vitro antibacterial activity against bacterial strains. These compounds were screened for their antioxidant activity by DPPH• and Fe2+ chelating assay. Antiproliferative effects were evaluated using the MTT assay method against two human cancer cell lines and one astrocytoma brain tumor cell line. Compound 3b exhibited moderate antibacterial activity when compared with other compounds. All the compounds showed antioxidant activity, where compound 3f was the best radical scavenger and Fe2+ ion scavenger. Compounds, 3b, and 3d showed good activity on all cell lines, whereas the other compounds in the series exhibited moderate activity.

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