

## Accepted Manuscript

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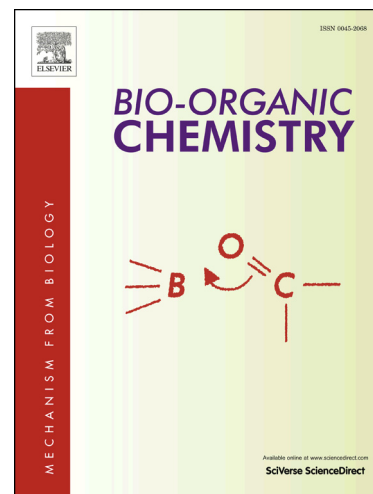
PII: S0045-2068(16)30248-6  
DOI: <http://dx.doi.org/10.1016/j.bioorg.2016.12.003>  
Reference: YBIOO 1981

To appear in: *Bioorganic Chemistry*

Received Date: 7 September 2016  
Revised Date: 7 October 2016  
Accepted Date: 17 December 2016

Please cite this article as: S. Mirza, S. Asma Naqvi, K. Mohammed Khan, U. Salar, M. Iqbal Choudhary, Facile Synthesis of Novel Substituted Aryl-Thiazole (SAT) Analogs *via* One-Pot Multi-component Reaction as Potent Cytotoxic Agents against Cancer Cell lines, *Bioorganic Chemistry* (2016), doi: <http://dx.doi.org/10.1016/j.bioorg.2016.12.003>

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## Facile Synthesis of Novel Substituted Aryl-Thiazole (SAT) Analogs via One-Pot Multi-component Reaction as Potent Cytotoxic Agents against Cancer Cell lines

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**Abstract:** In this study, twenty-five (25) substituted aryl thiazoles (SAT) **1-25** were synthesized, and their *in vitro* cytotoxicity was evaluated against four cancer cell lines, MCF-7 (ER<sup>+</sup> breast), MDA-MB-231 (ER<sup>-</sup> breast), HCT116 (colorectal) and HeLa (cervical). The activity was compared with the standard anticancer drug doxorubicin (IC<sub>50</sub> = 1.56 ± 0.05 μM). Among them, compounds **1**, **4-8**, and **19** were found to be toxic to all four cancer cell lines (IC<sub>50</sub> values 5.37 ± 0.56 - 46.72 ± 1.80 μM). Compound **20** was selectively active against MCF7 breast cancer cells with IC<sub>50</sub> of 40.21 ± 4.15 μM, whereas compound **19** was active against MCF7 and HeLa cells with IC<sub>50</sub> of 46.72 ± 1.8, and 19.86 ± 0.11 μM, respectively. These results suggest that substituted aryl thiazoles **1** and **4** deserve to be further investigated *in vivo* as anticancer leads.

**Keywords:** Thiazole; characterization; anticancer agents; (MCF7, MDA-MB-231); (HCT-116); (HeLa); cytotoxicity

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