

**P-71****Synthesis of 2-Methoxybenzoylhydrazone and Evaluation of their Antileishmanial Activity**

Mohd Syukri Baharudin<sup>1</sup>, Muhammad Taha<sup>1,\*</sup>, Nor Hadiani Ismail<sup>2</sup>, Khalid Mohammed Khan<sup>3</sup>, Faridahanim Mohd Jaafar<sup>2</sup>, Samreen<sup>3</sup>, Salman Siddiqui<sup>3</sup> and M. Iqbal Choudhary<sup>3</sup>

<sup>a</sup>Atta-ur-Rahman Institute for Natural Product Discovery, Universiti Teknologi MARA (UiTM), Puncak Alam Campus, 42300 Bandar Puncak Alam, Selangor, Malaysia; <sup>b</sup>Faculty of Applied Science UiTM, 40450 Shah Alam, Selangor, Malaysia; H.E.J. Research Institute of Chemistry, International Center for Chemical and Biological Sciences, University of Karachi, Karachi-75270, Pakistan; E-mail: taha\_hej@yahoo.com; muhamm9000@puncakalam.uitm.edu.my

2-Methoxybenzoylhydrazones **1-25** were synthesized from 2-methoxybenzoylhydrazide which was obtained from methyl-2-methoxybenzoate by refluxing with hydrazine hydrate for 5 h which was then crystallized from methanol. 2-Methoxybenzoylhydrazones were prepared by condensing 2-methoxybenzoylhydrazide with different aromatic aldehydes in refluxing ethanol for 3 to 4 hour in high yield. Compounds **1-25** showed varying degrees of antileishmanial activities with IC<sub>50</sub> values ranging between 1.95 - 88 μM, as compared to standard pentamidine (IC<sub>50</sub> = 5.09 μM). Compounds **10** (IC<sub>50</sub> = 1.95 μM), **11** (IC<sub>50</sub> = 2.49 μM), and **2** (IC<sub>50</sub> = 3.29 μM) were found to be more active than standard pentamidine (IC<sub>50</sub> = 5.09 μM). Compounds **7** (IC<sub>50</sub> = 7.64 μM), **8** (IC<sub>50</sub> = 13.17 μM), **18** (IC<sub>50</sub> = 13.15 μM), and **24** (IC<sub>50</sub> = 15.65 μM) exhibited good activities. Compounds **3** (IC<sub>50</sub> = 28.24 μM), **1** (IC<sub>50</sub> = 31.47 μM), **12**, (IC<sub>50</sub> = 31.56 μM), **4** (IC<sub>50</sub> = 33.2 μM), **15** (IC<sub>50</sub> = 34.85 ± 0.48 μM), **5** (IC<sub>50</sub> = 35.41 μM), **9** (IC<sub>50</sub> = 40.07 μM), and **19** (IC<sub>50</sub> = 45.67 μM) were found to be moderately active. Compounds **13**, **14**, **16**, **17**, **20-23** and **25** showed weak activities with IC<sub>50</sub> values between 57.41 to 88.56 μM. Only compound **6** was found to be completely inactive.

**Keywords:** 2-Methoxybenzoylhydrazone, antileishmanial activity, pentamidine, leishmania promastigotes.

---