**Supplementary Data**

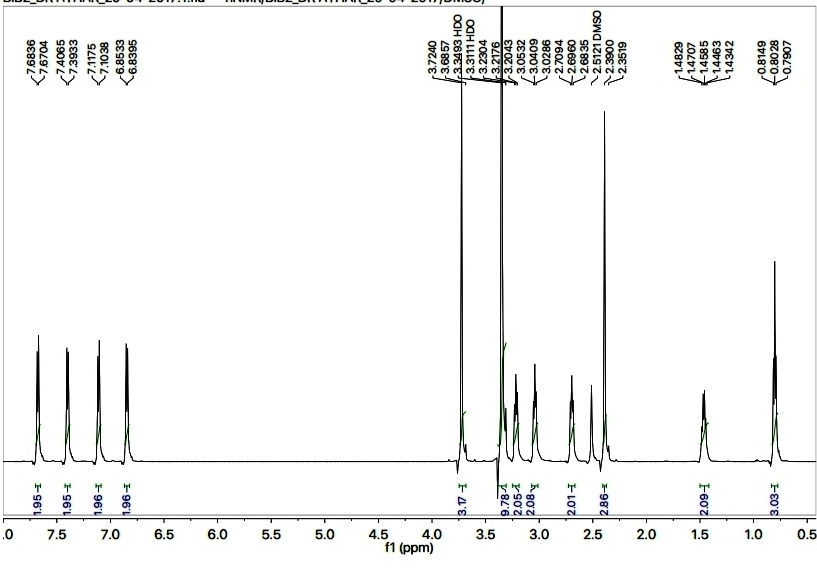
**Synthesis, enzyme inhibitory kinetics mechanism and computational study of *N*-(4-methoxyphenethyl)-*N*-(substituted)-4-methylbenzenesulfonamides as novel therapeutic agents for alzheimer’s disease**

Muhammad Athar Abbasi1,\*, Mubashir Hassan2, Aziz-ur-Rehman1, Sabahat Zahra Siddiqui1, Syed Adnan Ali Shah3,4, Hussain Raza2 and Sung-Yum Seo2,\*

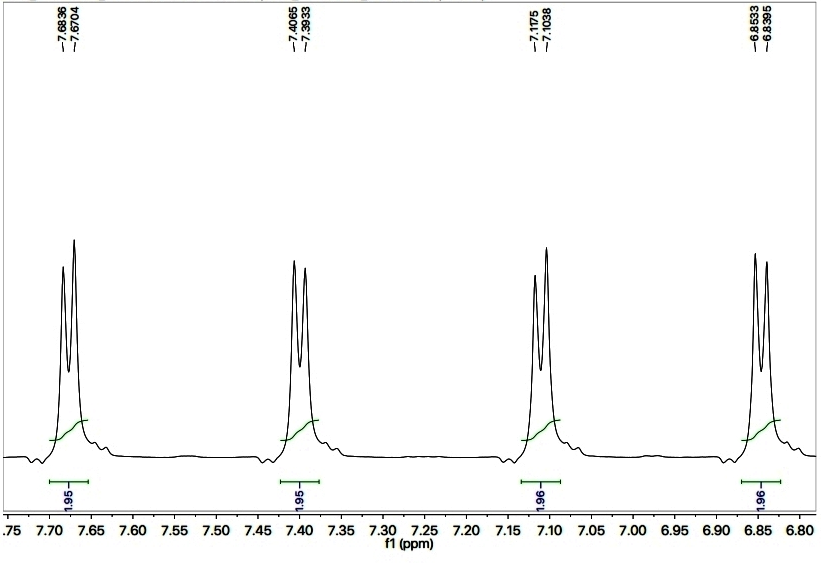
*1Department of Chemistry, Government College University, Lahore-54000, Pakistan.*

*2College of Natural Sciences, Department of Biological Science, Kongju National University, Gongju, 32588, South Korea.*

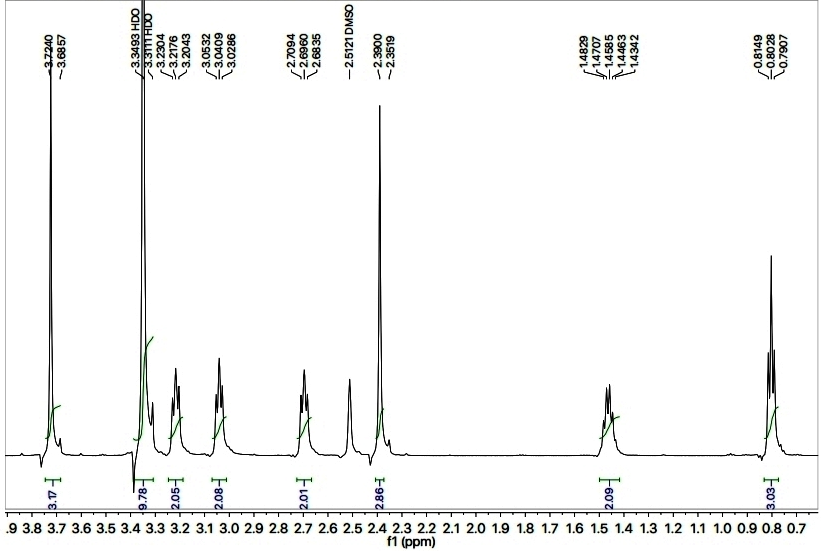
*3Faculty of Pharmacy & 4Atta-ur-Rahman Institute for Natural Products Discovery (AuRIns), Level 9, FF3, Universiti Teknologi MARA, Puncak Alam Campus, 42300 Bandar Puncak Alam, Selangor Darul Ehsan, Malaysia.*



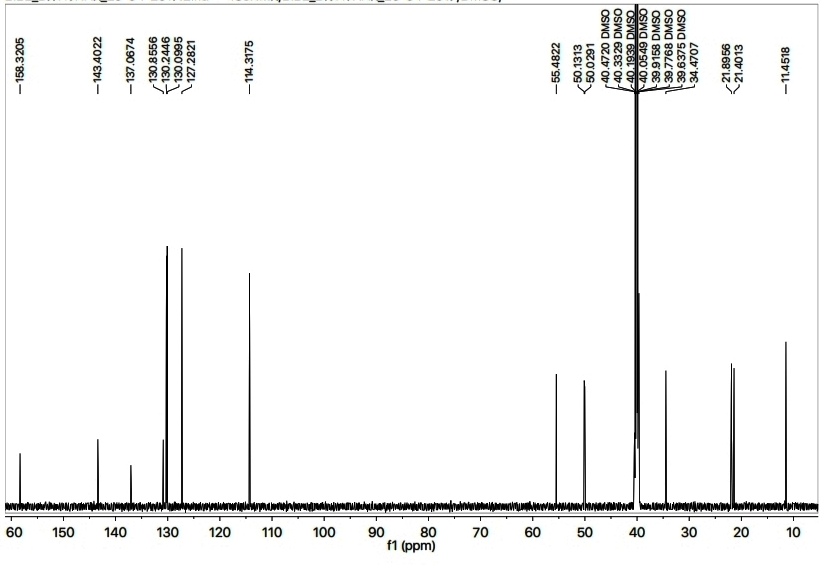
**Figure S1:** 1H-NMR spectrum of **5b**



**Figure S2:** Aromatic region of 1H-NMR spectrum of **5b**.



**Figure S3:** Aliphatic region of 1H-NMR spectrum of **5b**.



**Figure S4:** 13C-NMR spectrum of **5b**.

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**Figure S5:** Docking complex of 5a

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**Figure S6:** Docking complex of 5b

D:\Dr. Athar\BIB (acetyl cholinesterase)\Final images\5d.tif

**Figure S7:** Docking complex of 5d

D:\Dr. Athar\BIB (acetyl cholinesterase)\Final images\5e.tif

**Figure S8:** Docking complex of 5e

D:\Dr. Athar\BIB (acetyl cholinesterase)\Final images\5f.tif

**Figure S9:** Docking complex of 5f

D:\Dr. Athar\BIB (acetyl cholinesterase)\Final images\5g.tif

**Figure S10:** Docking complex of 5g

D:\Dr. Athar\BIB (acetyl cholinesterase)\Final images\5h.tif

**Figure S11:** Docking complex of 5h

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**Figure S12:** Docking complex of 5i

D:\Dr. Athar\BIB (acetyl cholinesterase)\Final images\5j.tif

**Figure S13:** Docking complex of 5j