**Synthesis and characterization of deca-quinoline bearing pillar[5]arene macrocycle**

Ahmed Nuri Kursunlu, Ersin Güler

Department of Chemistry, University of Selcuk, Campus, 42075, Konya, Turkey

[eguler66@gmail.com](mailto:eguler66@gmail.com)

**Abstract**

Pillar[5]arenes have some advantages over other macrocycles. It is synthesized using inexpensive reagents, recrystallized easily, and has high yields. The presence of ten substituents on the Pillar[5]arene main skeleton contributes to their easier solubility in organic solvents. The perfectly symmetrical structure and practical functionality of these macro loops have provided them with unique features such as excellent host-guest, high stability, multifunctionality. They have a simple structure as they exhibit excellent host-guest characteristics and are of planar chirality. They have a repeating structure of 1,4-dialkoxybenzene units linked by methylene bridges at the 2 and 5-positions. They are especially symmetrical and have columnar architectures. Herein, a Pillar[5]arene and quinoline derivatives were respectively prepared. Two organic groups were reacted by using ‘click’ chemistry. The chemical analysis of the compounds was illuminated by some techniques such as 1H-NMR, FT-IR, 13C-NMR, melting point, elemental analysis.



**Keywords:** Pillar[5]arenes, synthesis, characterization, quinoline, macrocycle.

[1] T. Ogoshi, T. Yamagishi, Y. Nakamoto, Pillar-shaped macrocyclic hosts pillar[n] arenes: new key players for supramolecular chemistry, Chem. Rev. (2016), 116 7937-8002.

[2] K. Atacan, A.N. Kursunlu, M. Ozmen, Preparation of pillar[5]arene immobilized trypsin and its application in T microwave-assisted digestion of Cytochrome c, Mater. Sci. Eng. C 94 (2019) 886–893.