1,2,3-triazoles are an important class of nitrogen rich heterocyclic compounds, which are broadly employed as pharmaceutical and agrochemical products due to their large spectrum of biological activities. 1,2,3-triazoles have been reported for significant anticancer, antibacterial, antifungal, antihelmintic and antiHIV activities.

We report “Click Chemistry” based synthesis of 1H-[1,2,3] triazole derivative by the reaction of 1,3,5-triethynylbenzene with azidoglycineethylester. One pot four-component reaction of alkyne, azide, sodium ascorbate and copper(II) sulfate pentahydrate in water and tert-butyl alcohol solvent at room temperature followed by hydrolysis yield nitrogen rich semi rigid tri-tropic ligand (L).1-2 Further, reaction of L with NaOH and KOH yield two 2D-coordination polymers 1 and 2, respectively. 1 and 2 shows unique coordination polymers with varying mode of coordination via carboxylate COO- and triazole ring N-atoms. Moreover, the same variation in binding mode was observed when single crystal of 1 was exposed to high vacuum for 1hr, resulting in different coordination polymer with change in mode of coordination from only COO—Na to both COO- and triazole ring N-atoms. This SCSC transformation involved several bond breaking and bond forming process. 1-2 has been charterized by thermal analysis, powder XRD and authenticated by single crystal X-ray studies.


Keywords: SCSC-Transformation, Sodium, Vacuum