

analysis were consistent with the assigned structures. The design of these compounds as COX inhibitors is based on our rationalization for the important criteria

Needed to overlap effectively with COX to induce antagonistic activity. These criteria are: **A)** A basic amino group for ionic interaction. **B)** The acetylenic group for electrostatic interaction. **C)** The 2-butyne provides the appropriate distance between the basic nitrogen and *cis*-1,2,3,6 Tetrahydrophthalimide. The docking results show that all the designed compounds have good COX inhibition especially AM4 had (-8.6 kcal/mol) for COX2 showing a promising approach in managing inflammatory diseases.