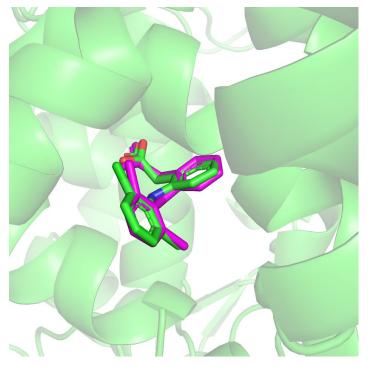
**Supplementary Figure 1.** Superposition of the structures of the best redocked conformation Diclofenac (magenta) and the original conformation of the ligand (green) within the active site pocket of COX1 (PDB code: 3N8Y). The calculated RMSD is 0.712 Å.



**Supplementary Figure 2.** Superposition of the structures of the best redocked conformation Naproxen (magenta) and the original conformation of the ligand (green) within the active site pocket of COX2 (PDB code: 3NT1). The calculated RMSD is 0.180 Å.

