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Synthesis of fluorinated ferrocene derivatives for their thermal behavior and their *in silico* studies in designing of potential breast cancer inhibitors

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The docking studies of the different fluorinated ferrocene derivatives have been carried out against estrogen receptor enzymes. The docking results are very much comparable with standard drug tamoxifen. The designed fluorinated ferrocene derivatives show similarity in binding as tamoxifen exhibits estrogen receptor enzymes *in silico*. Docking studies reveal that designed fluorinated ferrocene derivatives have potential against breast cancer *in silico*. The ADME properties of some of the designed compounds are indicative of the drug likeness of compounds. All the designed fluorinated derivatives have been synthesized and have been evaluated for their thermal behavior.

Keywords: Docking, fluorinated ferrocene derivatives, ADME, Tamoxifen, Binding, DSC, Thermal behavior, Breast Cancer