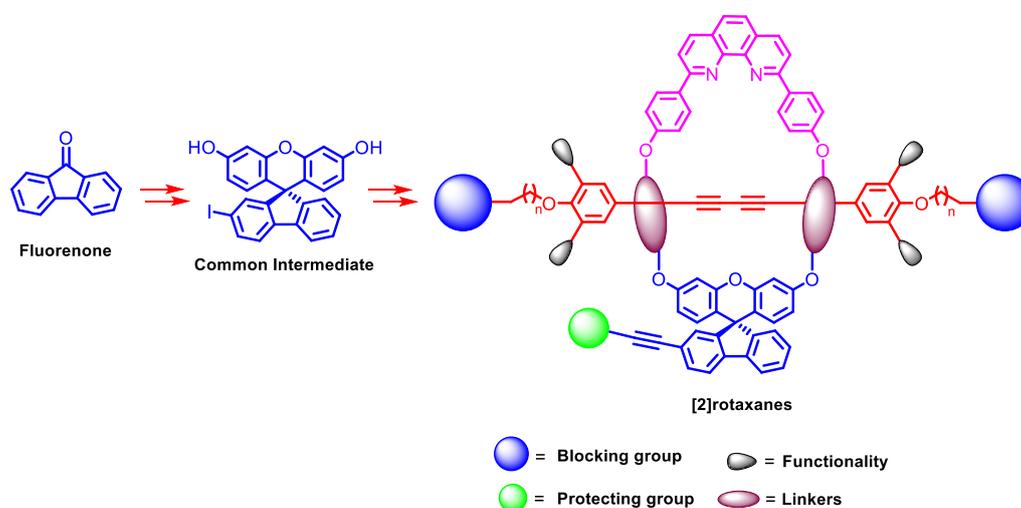


## Spirofluorene Based Novel [2]Rotaxanes: Synthesis and NMR Studies

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**Key words:** Spirofluorene, phenanthroline-Cu complex, [2]rotaxanes, NMR studies.

Synthesis of a series of spirofluorene based [2]rotaxanes has been accomplished in an efficient manner, using the coupling ability of the corresponding phenanthroline-Cu macrocyclic complexes.<sup>1</sup> These novel molecular entities, which are entitled to application oriented structural manipulations, have differences in both the axle as well as macrocyclic components. <sup>19</sup>F as well as <sup>1</sup>H NMR studies brought many interesting facts to surface, wherein it was observed that size/structure of the macrocyclic component is very important to give rise to the spatial interactions between the individual components of these rotaxanes. Smaller macrocycles were found to interact substantially with the axle moiety which eventually leads to desymmetization of the whole system. Size of the axle component in terms of the length of alkyl chain was found to have far less to no effect. Photophysical properties of these rotaxanes were also examined.



**Fig. 1:** Synthesis of fluorene based [2]rotaxanes

### References:

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