

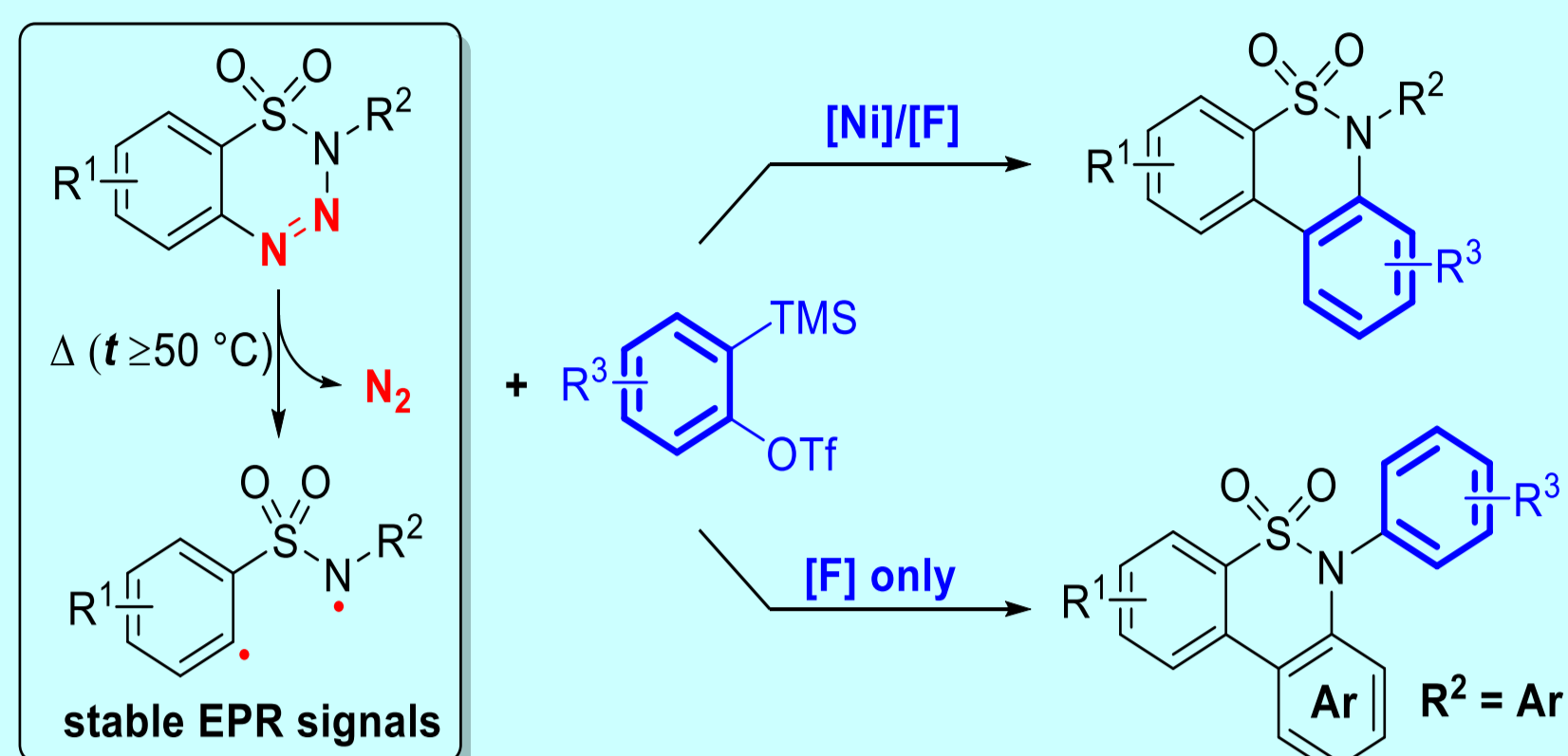


Exploring Denitrogenative Radical Pathway of 1,2,3,4-Benzothiazin-1,1(2*H*)-dioxides with Arynes to access Sultam Motifs

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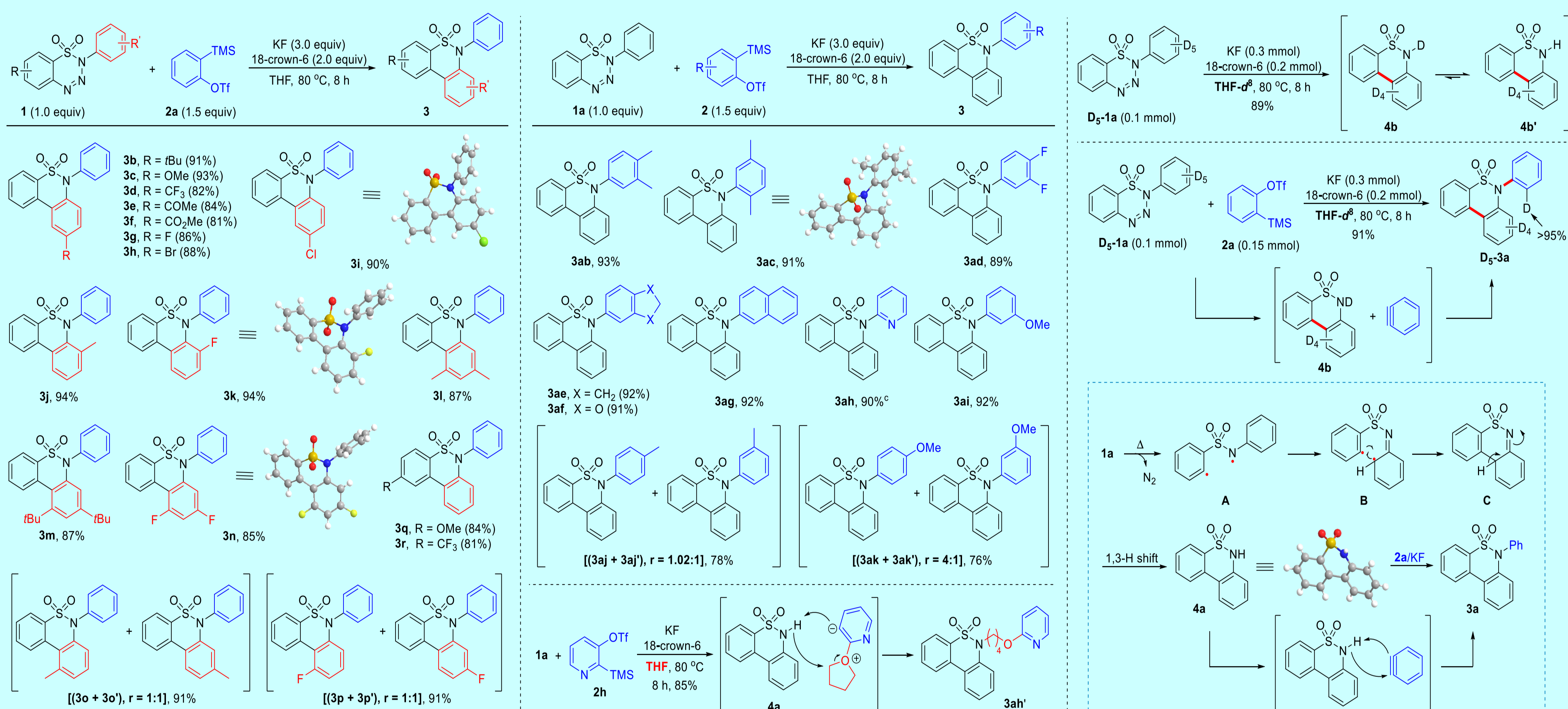
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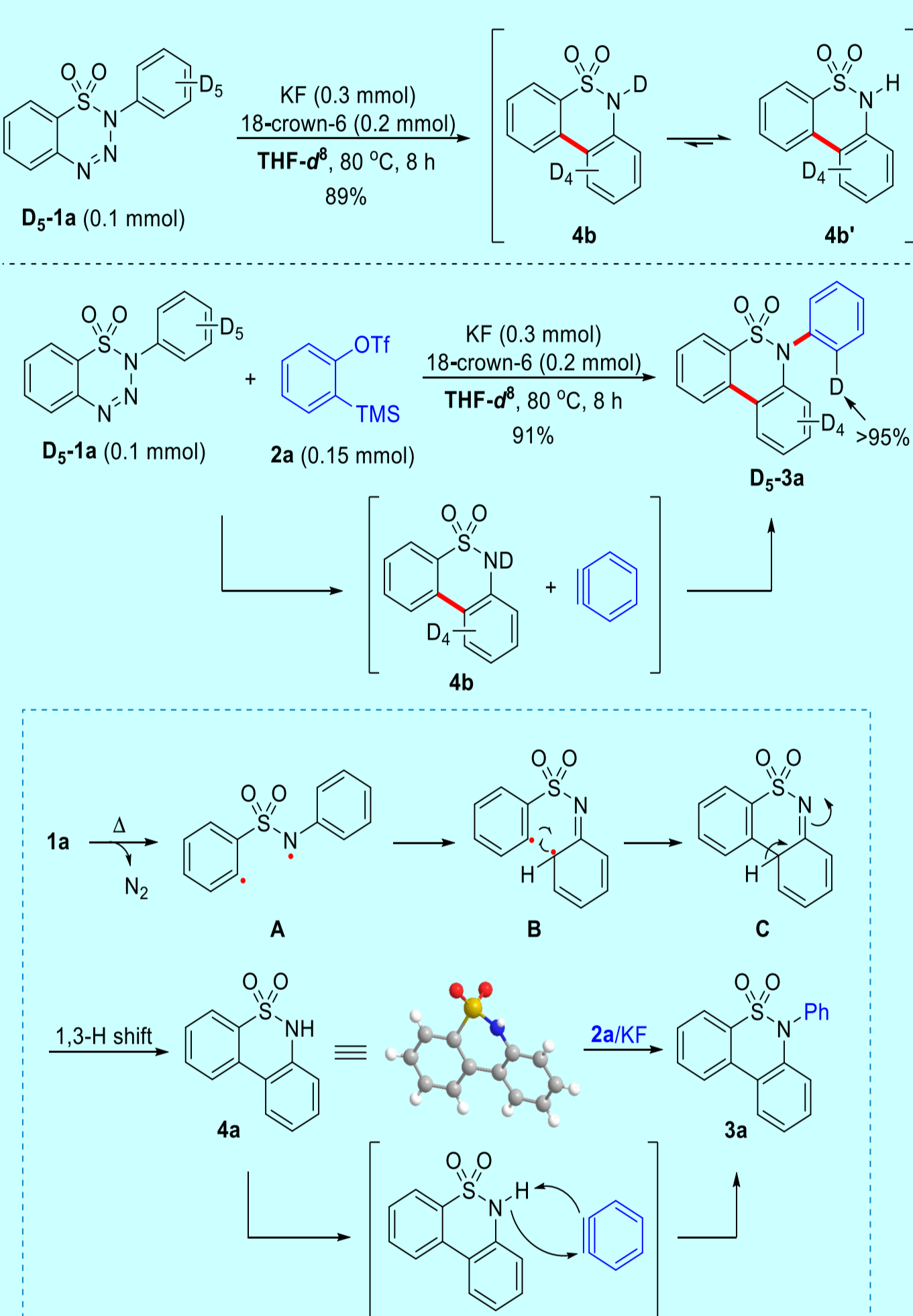


Abstract:

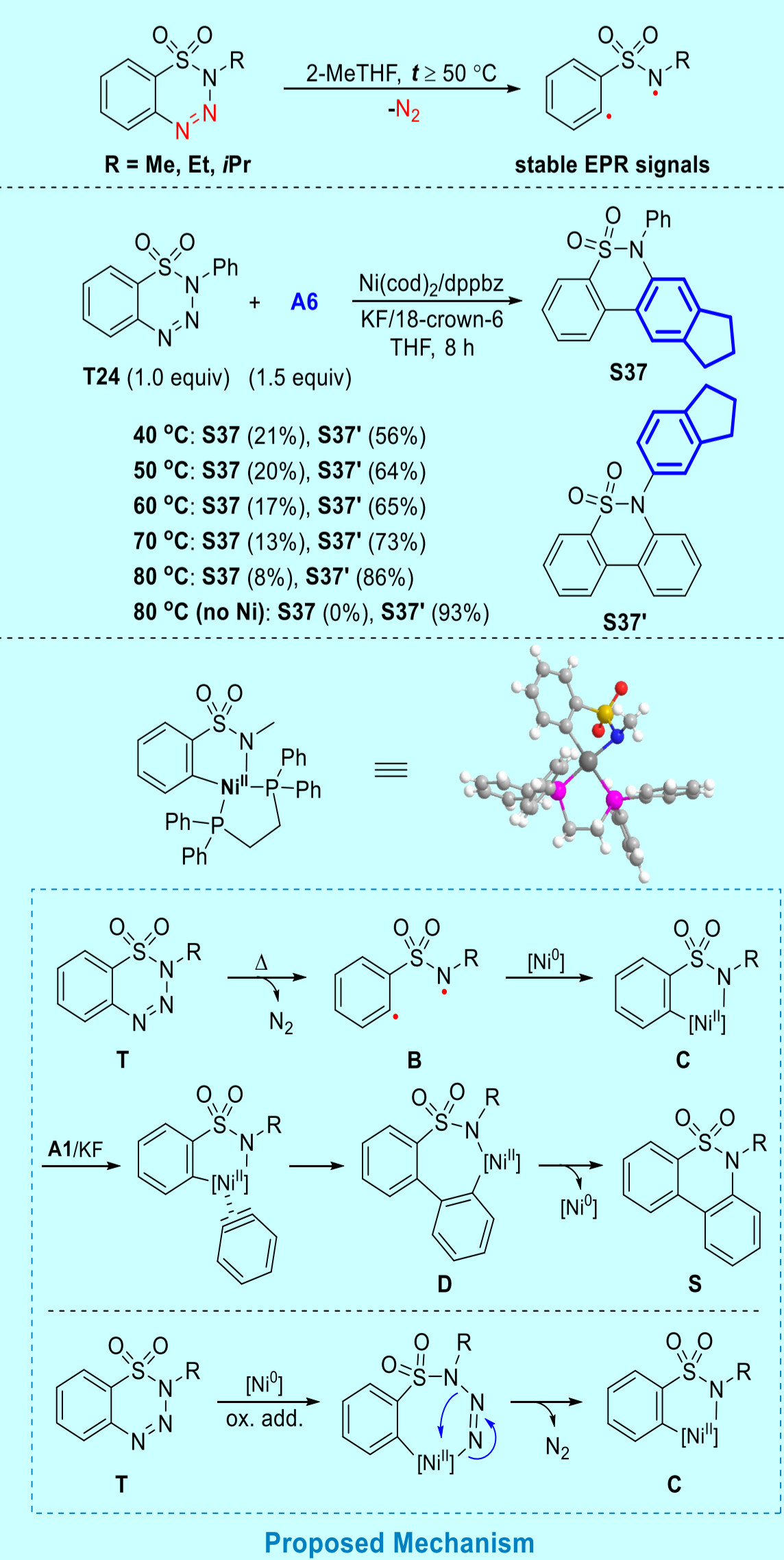
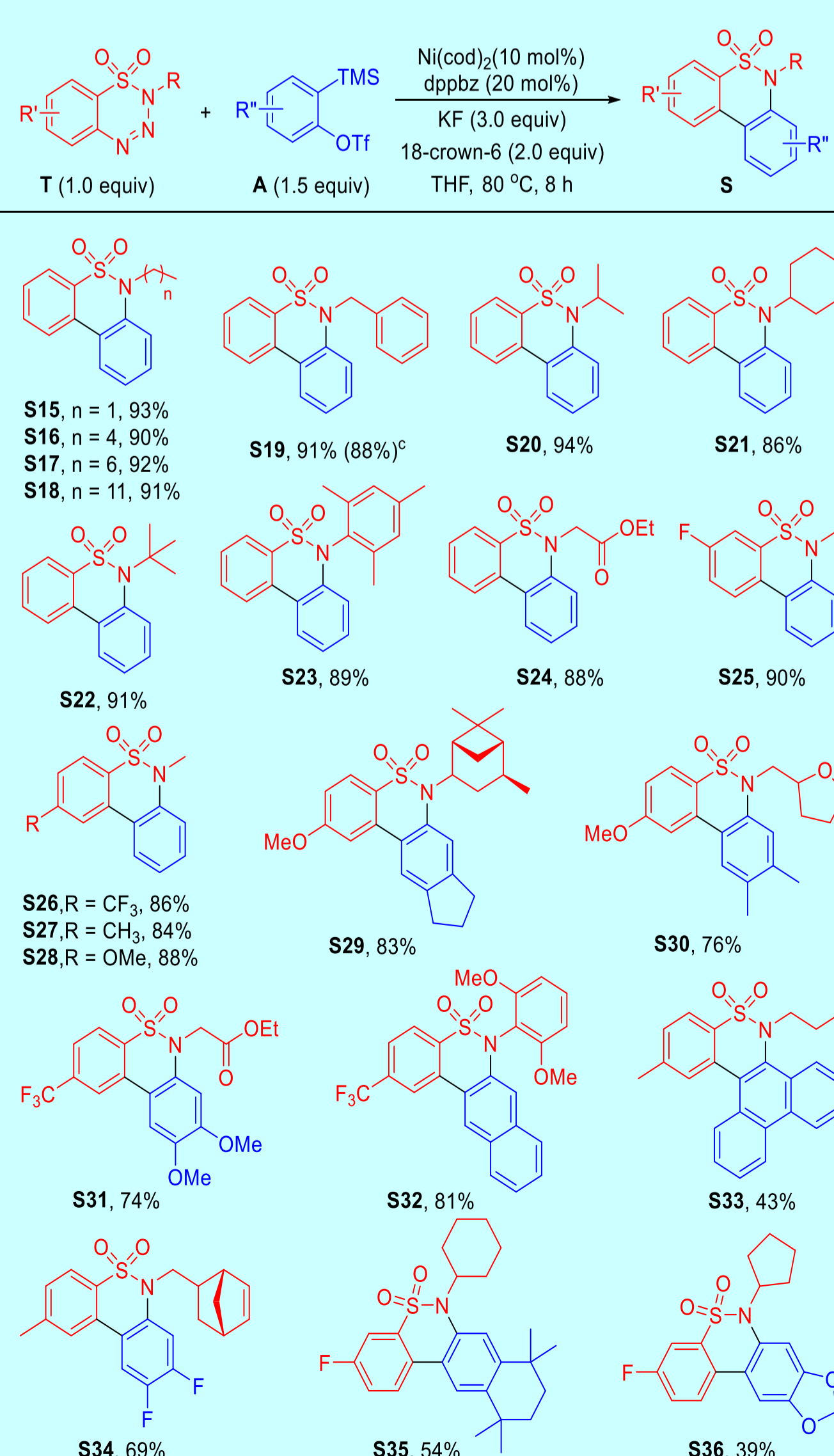
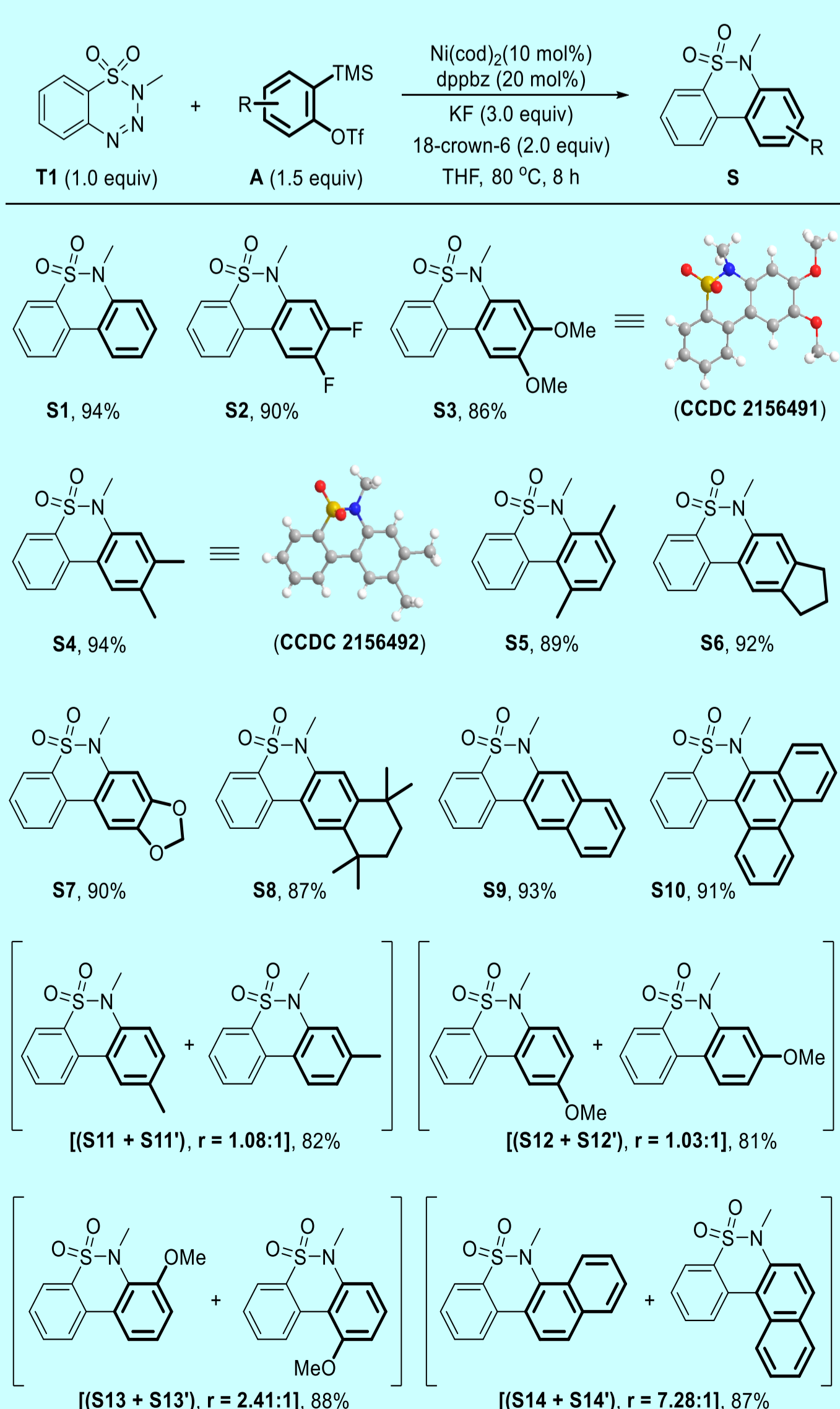
We have developed two synthetic methods involving the denitrogenative cyclization reactions of 1,2,3,4-benzothiazin-1,1(2*H*)-dioxides with arynes to form biaryl sultam analogues with excellent functional group compatibility and wide structural diversity. As demonstrated in the following Schemes, the benzothiazinone can undergo extrusion of a nitrogen molecule under suitable thermal conditions to generate a diradical species, which proceeds different cycloadditions including tandem cyclization and [4+2] annulation with aryne under different reaction protocols to afford the corresponding products.



Thorat, V. H.; Hsieh, J.-C.; Cheng, C.-H. *Org. Lett.* **2020**, *22*, 6623.



Proposed Mechanism



Proposed Mechanism

Thorat, V. H.; Tsai, Y.-L.; Huang, Y.-R.; Cheng, C.-H.; Hsieh, J.-C. *Org. Lett.* **2022**, *24*, 2915.