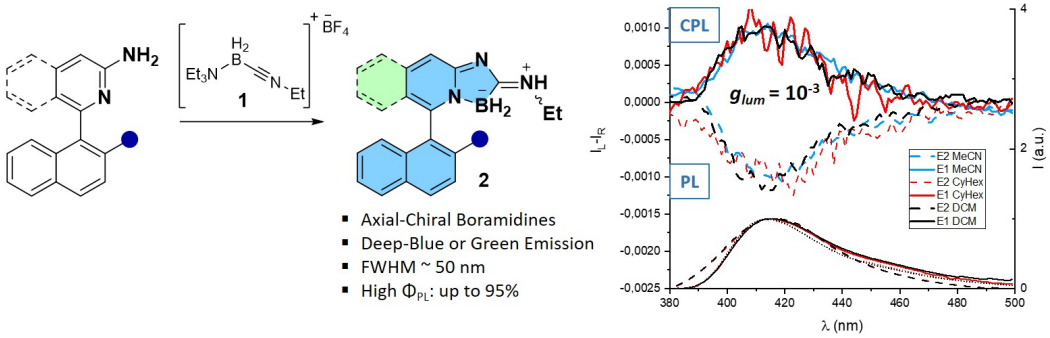
Chiral Boramidines: New Boron-Based Materials with Efficient Circularly Polarized Luminescence

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There is currently significant interest in developing novel organic molecules that exhibit a pronounced circularly polarized luminescence (CPL) due to their possible applications in 3D displays, optical sensors, and optical information storage or encryption.[1] An elegant approach to modifying the inherent characteristics of the original conjugated π-systems is the incorporation of main group elements into their π-conjugated structures. This strategy leads to the emergence of appealing optoelectronic properties that cannot be achieved with traditional carbon- or metal-based materials.[2] In this regard, the boron-based conjugated systems have drawn immense attraction because they offer excellent photophysical properties, and have recently been reported as new and exciting thermally activated delayed fluorescence moieties.[3]

Despite the abundance of boron-based platforms prepared mainly from BX_3, sodium cyanoborohydride-derived N-alkylnitriliumboranes (**1**) were found to be versatile precursors for the synthesis of novel stable luminescent B-containing heterocycles.[4] Inspired by the work of Yudin and co-workers,[4] new chiral boramidine derivatives (**2**) were prepared. These fluorophores show interesting (chir)optical properties, such as the incorporation of triplet state, narrow emission bands, high PLQY, and emission of CPL with remarkable g_{lum} values.



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[4] Yury Lebedev, Chirag Apte, Susan Cheng, Cyrille Lavigne, Alan Lough, Alán Aspuru-Guzik, Dwight S. Seferos, Andrei K. Yudin, *Journal of American Chemical Society*, **2020**, 142, 13544-13549.