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## Recent advances in chemiluminescence based on carbonaceous dots

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### Abstract

Herein, a broad overview concerning the most recent progress of carbon dots (CDs) in chemiluminescence (CL) as well as the mechanisms and applications are presented. CDs have excellent optical and electronic properties and are very important advancement in the fast growing domain of nanotechnology. CDs enhance the ultraweak CL of different systems. The mechanisms and applications of these enhanced CL reactions are discussed. It is worthy to note that CDs participate in CL reactions as catalysts, energy acceptors or are directly involved in redox reactions with radicals in CL systems. Sometimes, these processes taking place simultaneously to enhance CL intensity. In this report, recent advances in CD based CL are comprehensively summarized and their applications in detection of various reagents and biological molecules are reviewed. The challenges and future prospects of this field are also discussed.

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