

## CARBAZOLE DENDRIMERS AS EFFICIENT THERMALLY ACTIVATED DELAYED FLUORESCENCE AND LUMINESCENT RADICAL MATERIALS

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Carbazole dendrimers have a head-to-tail type molecular structure and unique polarized electronic structure with HOMO localized in the outer layer and LUMO localized in the inner layer. This electronic structure matches the design principle of thermally activated delayed fluorescence (TADF) materials. TADF materials are attracting attention as third-generation OLED materials and we have reported the first solution processable TADF dendrimer based on the carbazole dendrimer donor. TADF dendrimer can be utilized not only for OLEDs but also for LEC (light-emitting electrochemical cells) devices. We also found that carbazole dendrimerization is effective in improving the efficiency of doublet (radical) luminescent materials, which are fourth-generation OLED materials.

