

Abstract Submitted  
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**Observation of long-lived room temperature phosphorescence from exciplex in organic metal-free materials** TIANLEI ZHOU, Univ of Nevada - Reno, YUE WANG, Jilin University, China, GHASSAN JABBOUR, Univ of Nevada - Reno — Long-lived room temperature phosphorescence (RTP) from metal-free organic material system is very rare because the intersystem crossing rate in organic molecules is very small, and long-lived excited triplet states are easily quenched by oxygen and thermal perturbations. This research presents an intense long-lived RTP from exciplex formation, for a given organic materials system, in the absence of phosphorescence protector or stabilizer. Our experimental observation indicates that such exciplex is resistant to oxygen quenching and can be obtained easily by grinding the powders of given materials. Our approach demonstrates, for the first time to our knowledge, a low cost and efficient route to obtaining long-lived RTP in organic materials.

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