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**Synthesis of s-triazine based tri-imidazole derivatives and their application as thermal latent curing agents for epoxy resin**

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**ABSTRACT:** A series of novel s-triazine based tri-imidazole derivatives were successfully prepared through the substitution reaction of cyanuric chloride with imidazole (IM), 2-methylimidazole (2MI), 2-ethylimidazole (2EI) and 2-ethyl-4-methylimidazole (EMI), respectively. The synthesized tri-imidazole derivatives were applied in epoxy resin (EP) to investigate their curing behaviors and thermal latency. Compared with the EP systems containing the unmodified imidazoles, the curing exothermic peaks of the EP systems containing s-triazine based tri-imidazole derivatives shifted to higher temperature regions. Moreover, the EP systems containing s-triazine based tri-imidazole derivatives had much longer storage stability at room temperature. The s-triazine structure with strong electron withdrawing effect reduced the nucleophilicity of pyridine-like nitrogen atom of imidazole ring, resulting in the suppression of reactivity

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