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**Enhancing the interfacial strength of carbon fiber
reinforced epoxy composites by green grafting of
Poly(oxypropylene) Diamines**

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Abstract: We report on a green method of using poly(oxypropylene) diamines (D₄₀₀) as coupling and curing agent to functionalize carbon fiber in water. We propose to enhance the interfacial properties of carbon fiber composites, together with the tensile strength of carbon fibers. The microstructure and mechanical properties of carbon fibers before and after modification are investigated. The results show that D₄₀₀ do not change the surface morphology, but significantly increase the polarity, wettability and roughness of the carbon fiber surface. The interfacial shear strength (IFSS) of modified carbon fiber/epoxy composite and the tensile strength of carbon fibers

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