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PII: S1359-835X(17)30152-5

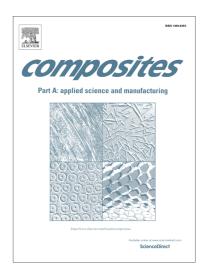
DOI: http://dx.doi.org/10.1016/j.compositesa.2017.04.003

Reference: JCOMA 4630

To appear in: Composites: Part A

Received Date: 4 November 2016

Revised Date: 1 April 2017 Accepted Date: 5 April 2017



Please cite this article as: Wang, C., Chen, L., Li, J., Sun, S., Ma, L., Wu, G., Zhao, F., Jiang, B., Huang, Y., Enhancing the interfacial strength of carbon fiber reinforced epoxy composites by green grafting of Poly(oxypropylene) Diamines, *Composites: Part A* (2017), doi: http://dx.doi.org/10.1016/j.compositesa. 2017.04.003

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ACCEPTED MANUSCRIPT

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

Caifeng Wang ^a, Lei Chen ^a, Jun Li, ^a Shaofan Sun ^a, Lichun Ma ^{a b}, Guangshun Wu ^{a c},
Feng Zhao ^a, Bo Jiang ^a and Yudong Huang* ^a

^a MIIT Key Laboratory of Critical Materials Technology for New Energy Conversion and Storage, School of Chemistry and Chemical Engineering, Harbin Institute of Technology, Harbin 150040, China.

^b Institute of Material Science and Engineering, Qingdao University, Qingdao 266071, China.

^c School of Chemistry and Materials Science, Ludong University, Yantai 264025, China.

Abstract: We report on a green method of using poly(oxypropylene) diamines (D_{400}) 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 D_{400} 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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