

## List of publications

### In journals

1. **B. De** and N. Karak, Novel high performance tough hyperbranched epoxy by an  $A_2 + B_3$  polycondensation reaction, *J. Mater. Chem. A* **1**, 348-353, 2013.
2. **B. De** and N. Karak, A green and facile approach for the synthesis of water soluble fluorescent carbon dots from banana juice, *RSC Adv.* **3**, 8286-8290, 2013.
3. **B. De**, B. Voit and N. Karak, Transparent luminescent hyperbranched epoxy/carbon oxide dot nanocomposites with outstanding toughness and ductility, *ACS Appl. Mater. Interfaces* **5**, 10027-10034, 2013.
4. **B. De**, K. Gupta, M. Mandal and N. Karak, Bio-degradable hyperbranched epoxy from castor oil based hyperbranched polyester polyol, *ACS Sustainable Chem. Eng.* **2**, 445-453, 2014.
5. **B. De** and N. Karak, A room temperature cured low dielectric hyperbranched epoxy adhesive with high mechanical strength, *J. Chem. Sci.* **126**, 587-595, 2014.
6. **B. De** and N. Karak, Tough hyperbranched epoxy/poly(amido-amine) modified bentonite thermosetting nanocomposites, *J. Appl. Polym. Sci.* **131**, 40327 (8 p), 2014.
7. **B. De**, B. Voit and N. Karak, Carbon dot reduced  $Cu_2O$  nanohybrid/hyperbranched epoxy nanocomposite: mechanical, thermal and photocatalytic activity, *RSC Adv.* **4**, 58453-58459, 2014.
8. **B. De**, K. Gupta, M. Mandal and N. Karak, Tough hyperbranched epoxy/neem-oil-modified OMMT thermosetting nanocomposite with an antimicrobial attribute, *New J. Chem.* **39**, 595-603, 2015.
9. **B. De** and N. Karak, Ultra low dielectric, high performing hyperbranched epoxy thermosets: Synthesis, characterization and property evaluation, *RSC Adv.* **5**, 35080-35088, 2015.
10. **B. De**, K. Gupta, M. Mandal and N. Karak, Biocide immobilized OMMT-carbon dot reduced  $Cu_2O$  nanohybrid/hyperbranched epoxy nanocomposites: Mechanical, thermal, antimicrobial and optical properties, *Mater. Sci. Eng. C* **56**, 74-83, 2015.
11. **B. De**, M. Kumar, B. B. Mandal and N. Karak, An *in situ* prepared photo-luminescent transparent biocompatible hyperbranched epoxy/carbon dot nanocomposite, *RSC Adv.* 2015 (Revision submitted).

## **Patent**

N. Karak and **B. De**, A tough synthetic low dielectric hyperbranched epoxy adhesive and to the process of the preparing the same, Indian Patent: Application No. 786/KOL/2013 dated 28.06.2013.

## **In conference**

### *International*

1. **B. De** and N. Karak, Hyperbranched epoxy/carbon dots nanocomposites as advanced adhesive materials, international conference on rubber and rubber-like materials, (ICRRM-2013), IIT Kharagpur, Kharagpur, 6-9 March, 2013.
2. **B. De** and N. Karak, Water soluble fluorescent carbon dot and its applications, 3rd International conference on advanced nanomaterials and nanotechnology (ICANN-13), IIT Guwahati, 1-3 December, 2013.
3. **B. De** and N. Karak, Photoluminescent transparent hyperbranched epoxy/carbon dot nanocomposites, APA International Conference on Polymers visions and innovations (APA-2014), IIT Delhi, New Delhi, 19-21 February, 2014. (**Awarded as Best Poster**)

### *National*

1. **B. De** and N. Karak, Castor oil based polyester modified hyperbranched epoxy, National Conference on Chemistry, Chemical Technology and Society (NCCCTS), Tezpur University, Assam, 11-12 November, 2011.