Accepted Manuscript

Title: Hierarchical flower-like NiAl-layered double hydroxide microspheres encapsulated with black Cu-doped TiO_2 nanoparticles: Highly efficient visible-light-driven composite photocatalysts for environmental remediation

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PII: S0304-3894(18)30376-5
DOI: https://doi.org/10.1016/j.jhazmat.2018.05.038
Reference: HAZMAT 19405

To appear in: *Journal of Hazardous Materials*

Received date: 2-3-2018
Revised date: 12-5-2018
Accepted date: 14-5-2018

Please cite this article as: Jo W-Kuen, Kim Y-Gyeong, Tonda S, Hierarchical flower-like NiAl-layered double hydroxide microspheres encapsulated with black Cu-doped TiO_2 nanoparticles: Highly efficient visible-light-driven composite photocatalysts for environmental remediation, *Journal of Hazardous Materials* (2018), https://doi.org/10.1016/j.jhazmat.2018.05.038

Hierarchical flower-like NiAl-layered double hydroxide microspheres encapsulated with black Cu-doped TiO_2 nanoparticles: Highly efficient visible-light-driven composite photocatalysts for environmental remediation

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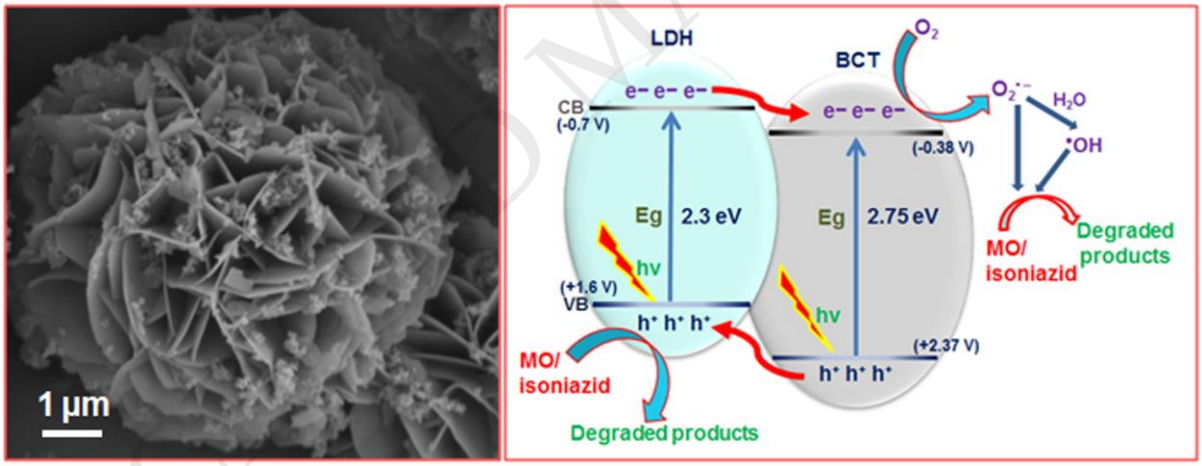
Graphical abstract



Highlights

- Novel and highly efficient black Cu-doped TiO_2/NiAl-LDH composites were fabricated.
- Both components in the composite system exhibited strong visible-light absorption.
- Composite system showed excellent performance for MO and isoniazid photodegradation.
- Rapid charge transfer at the interface contributed to remarkable photo-activity.