

Accepted Manuscript

Title: Novel Pd/GdCrO₃ composite for photo-catalytical reduction of nitrate to N₂ with high selectivity and activity

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PII: S0926-3373(18)30254-6
DOI: <https://doi.org/10.1016/j.apcatb.2018.03.055>
Reference: APCATB 16513

To appear in: *Applied Catalysis B: Environmental*

Received date: 30-12-2017
Revised date: 11-2-2018
Accepted date: 18-3-2018

Please cite this article as: Hou Z, Chen F, Wang J, François-Xavier CP, Wintgens T, Novel Pd/GdCrO₃ composite for photo-catalytical reduction of nitrate to N₂ with high selectivity and activity, *Applied Catalysis B, Environmental* (2018), <https://doi.org/10.1016/j.apcatb.2018.03.055>

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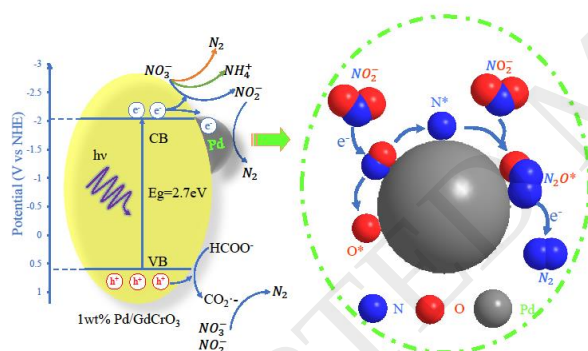
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Graphical abstract



Highlight

- 1wt% Pd/GdCrO₃ achieves high removal rate of nitrate and selectivity to N₂
- **Negative** CB value of GdCrO₃ directly electron-drives catalytic reduction of nitrate
- Electrons transfer from CB of GdCrO₃ to Pd enhance utilization of charge carriers
- Nitrite reduction mechanism on the surface of Pd enhances the selectivity to N₂
- We provide efficient way to improve photocatalytic activity and selectivity to N₂

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