## Supplementary Materials



Figure S1. TGA for compounds 1-3.


Figure S2. Varied temperatures PXRD patterns of $\mathbf{1}$.


Figure S3. Varied temperatures PXRD patterns of $\mathbf{2}$.


Figure S4. Varied temperatures PXRD patterns of $\mathbf{3}$.


Figure S5. Photos of $\mathbf{1}$ after calcination at various temperatures for one hour.


Figure S6. Photos of $\mathbf{2}$ after calcination at various temperatures for one hour.


3-as-synthesized

$3-300^{\circ} \mathrm{C}$ ( 1 h )

$3-450^{\circ} \mathrm{C}$ (1 h )

$3-200^{\circ} \mathrm{C}$ (1h)

$3-350^{\circ} \mathrm{C}(1 \mathrm{~h})$

$3-500^{\circ} \mathrm{C}$ (1h)

$3-250^{\circ} \mathrm{C}$ (1h)

$3-400^{\circ} \mathrm{C}$ (1h)

$3-600^{\circ} \mathrm{C}$ (1h)

Figure S7. Photos of $\mathbf{3}$ after calcination at various temperatures for one hour.


Figure S8. Comparison of PXRD pattern of 2 calcined at $600^{\circ} \mathrm{C}$ with calculated PXRD pattern of $\mathrm{Al}_{2} \mathrm{O}_{3}$.


Figure S9. The $\mathrm{CO}_{2}$ gas sorption isotherms for $\mathbf{1}$ at 273 K and 298 K .


Figure S10. The $\mathrm{CO}_{2}$ gas sorption isotherms for $\mathbf{2}$ at 273 K and 298 K .


Figure S11. The $\mathrm{CO}_{2}$ gas sorption isotherms for $\mathbf{3}$ at 273 K and 298 K .


Figure S12. Comparison of PXRD pattern of 2c with calculated PXRD pattern of Graphite.


Figure S13. Photos of 1c without magnetic field (a) and with magnetic field (b).

(a)

(b)

| Element | Weight (\%) | Atomic (\%) | Element | Weight (\%) | Atomic (\%) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| C | 93.22 | 94.83 | C | 0.00 | 0.00 |
| O | 6.78 | 5.17 | O | 4.36 | 24.67 |
| In | 0.00 | 0.00 | In | 95.64 | 75.33 |

Figure S14. The EDS analysis results for $\mathbf{3 c}$ at two different places of SEM images (a) and (b).

