Supporting Information

Ag nanoparticles supported on N-doped graphene hybrids for catalytic reduction of 4-nitrophenol

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Fig. S1. SEM images of (a) RGO and (b) N-RGO



Fig. S2. TGA curves of RGO and N-RGO treated under air atmosphere



Fig. S3. XPS C1s spectra of Ag/RGO



Fig. S4. Time-dependent UV-vis absorption spectra in the presence of (a) pure Ag NPs, (b) bare N-RGO and (c) bare RGO as catalysts.



Fig. S5. Current-voltage curves of RGO and N-RGO (each for three measurements) films measured by a four-probe method



Fig. S6. TEM images of (a) Ag/N-RGO and (b) Ag/RGO after ten cycles

| Sample | Specific surface area | Pore volume | Pore size |
|----------|-----------------------|--------------|-----------|
| | (m^{2}/g) | (cm^{3}/g) | (nm) |
| Ag/RGO | 148.2 | 1.23 | 13.7 |
| Ag/N-RGO | 165.8 | 1.07 | 11.5 |

Table S1. BET surface areas of the samples

Table S2. Electrical conductivities of the RGO and N-RGO films

| Sample | Electrical conductivity (S/m) | Average value (S/m) |
|--------|-------------------------------|---------------------|
| | 4.35 | |
| RGO | 4.28 | 4.25 |
| | 4.13 | |
| | 34.67 | |
| N-RGO | 33.85 | 33.68 |
| | 32.53 | |