# Supporting Information

## *Localized Fluorescent Complexation Enables Rapid Monitoring of Airborne Nanoparticles*

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**Table S1.** Summary of nanomaterials employed in our experiments.

| Material | Composition | Vendor | Particle size measured by SEM (nm) | Density ($g/cm^3$) |
|---|---|---|---|---|
| $Al_2O_3$ | 15 wt% suspension (aq) (Figs. 3 and 4) | NEI Corporation | ~ 100 (see characterization data in Fig. 4d) | 4.0 |
| $Al_2O_3$ | Powder (Fig. 2b) | Sigma-Aldrich (Cat. No. 544833) | 23 ± 3 | 4.0 |
| $TiO_2$ | Powder | Sigma-Aldrich (Cat. No. 637254) | 49 ± 9 | 3.9 |
| $Fe_2O_3$ | Powder | Sigma-Aldrich (Cat. No. 544884) | 28 ± 5 | 5.1 |
| CuO | Powder | Alfa Aesar (Cat. No. 44928) | 31 ± 9 | ~6.4 |
| $SiO_2$ | Powder | Sigma-Aldrich (Cat. No. 637238) | 21 ± 4 | 2.2-2.6 |
| ZnO | Powder | Sigma-Aldrich (Cat. No. 544906) | 60 ± 20 | 5.6 |
| ZnO | Powder | Sigma-Aldrich (Cat. No. 205532) | 117 ± 37 | 5.6 |
| ZnO | Powder | Sigma-Aldrich (Cat. No. 255750) | 144 ± 41 | 5.6 |

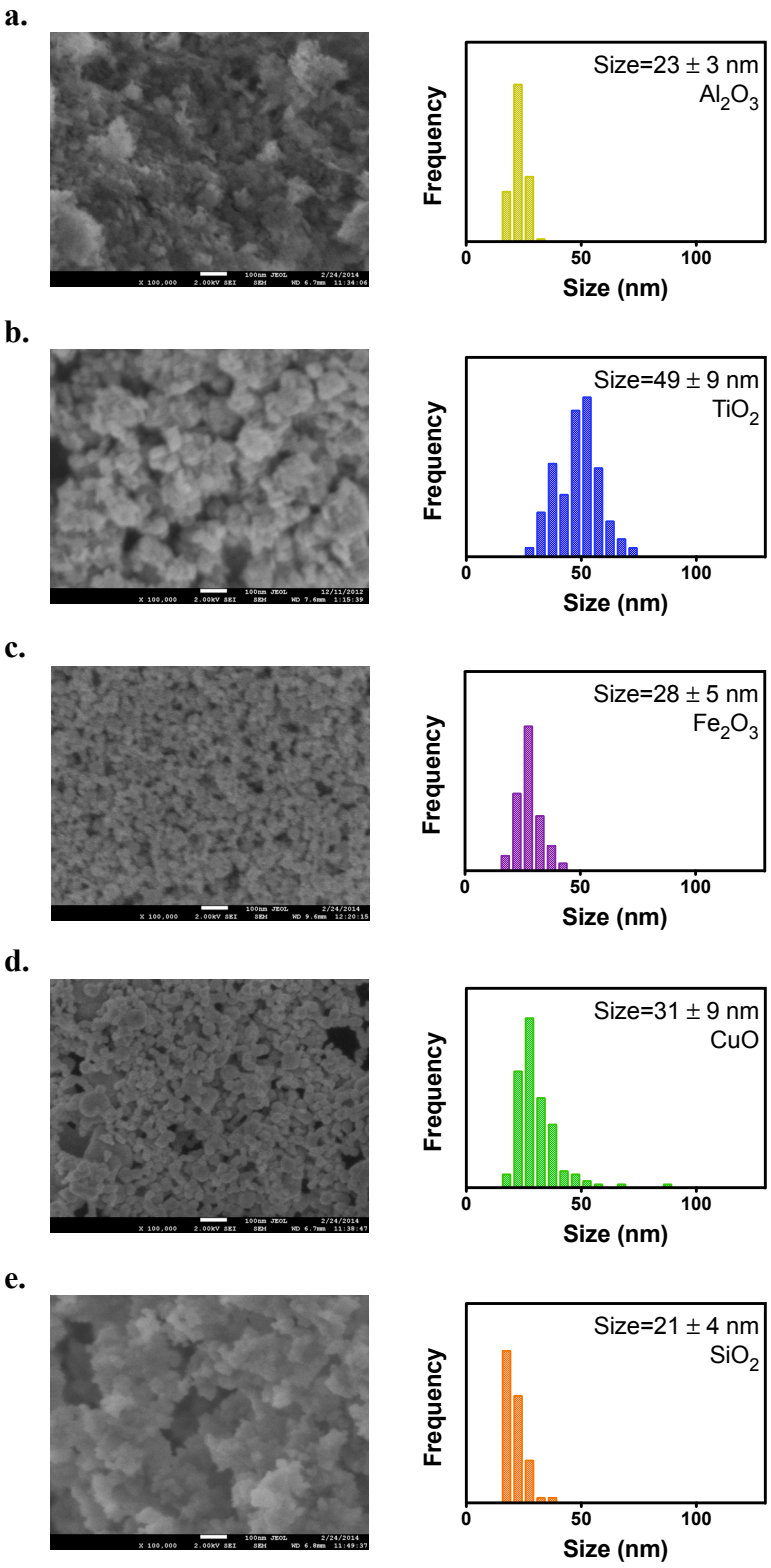


**Figure S1.** SEM images (left) and size distribution data (right) of **(a)** $Al_2O_3$, **(b)** $TiO_2$, **(c)** $Fe_2O_3$, **(d)** CuO, and **(e)** $SiO_2$ nanomaterial powders reported in Figure 2a of the main text. Particle sizes obtained from the SEM images are in agreement with the manufacturer-specified values.

**Table S2.** Summary of fluorescent dyes and stabilizing surfactants employed in our experiments.

| Material | Composition | Vendor |
|---|---|---|
| Fluorescein (free acid) | Powder | Fluka Analytical (Cat. No. 46955) |
| Rose Bengal | Powder | Sigma-Aldrich (Cat. No. R3877) |
| Rhodamine 6G | Powder | Sigma-Aldrich (Cat. No. R4127) |
| Tween 20 | Liquid | Sigma-Aldrich (Cat. No. P9416) |
| Tween 80 | Liquid | Sigma-Aldrich (Cat. No. P1754) |
| SDS | Powder | Fisher Scientific (Cat. No. BP166500) |
| CTAB | Powder | Sigma-Aldrich (Cat. No. H6269) |
| Triton X100 | Liquid | MP Biomedicals (Cat. No. 807423) |