Supplementary materials

Nanospace-confined preparation of uniform nitrogen-doped graphene quantum dots for highly selective fluorescence dual-function determination of Fe$^{3+}$ and ascorbic acid

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Figure S1. (a) UV-vis absorption spectrum of the N-GQDs dispersed in water. Inset: photograph of the N-GQDs solutions taken under illumination of UV light (365 nm). (b) Fluorescence emission spectra of the N-GQDs aqueous solution at different excitation wavelengths from 300 to 400 nm.

Table S1. Determination of Fe$^{3+}$ in tap water samples (n=3).

| Sample | Added (μM) | Detected (μM) | Recovery (%) | RSD (%) |
|--------|------------|---------------|--------------|---------|
| Sample 1 | 10         | 10.36         | 103.6        | 4.5     |
| Sample 2 | 20         | 18.62         | 93.1         | 3.2     |
| Sample 3 | 30         | 32.19         | 107.3        | 5.7     |
Table S2. Determination of AA in fish blood samples (n=3).

| Sample  | Added (μM) | Detected (μM) | Recovery (%) | RSD (%) |
|---------|------------|---------------|--------------|---------|
| Sample 1 | 10         | 9.53          | 95.3         | 4.8     |
| Sample 2 | 30         | 30.45         | 101.5        | 1.5     |
| Sample 3 | 40         | 42.48         | 106.2        | 2.7     |