Supporting Information

Ultrasonic Assisted Synthesis of Size-Controlled Cu-Metal−Organic Framework Decorated Graphene Oxide Composite: Sustainable Electrocatalyst for the Trace-Level Determination of Nitrite in Environmental Water Samples

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Number of Pages: 11 **Number of Figures: 8** **Number of Tables: 2**

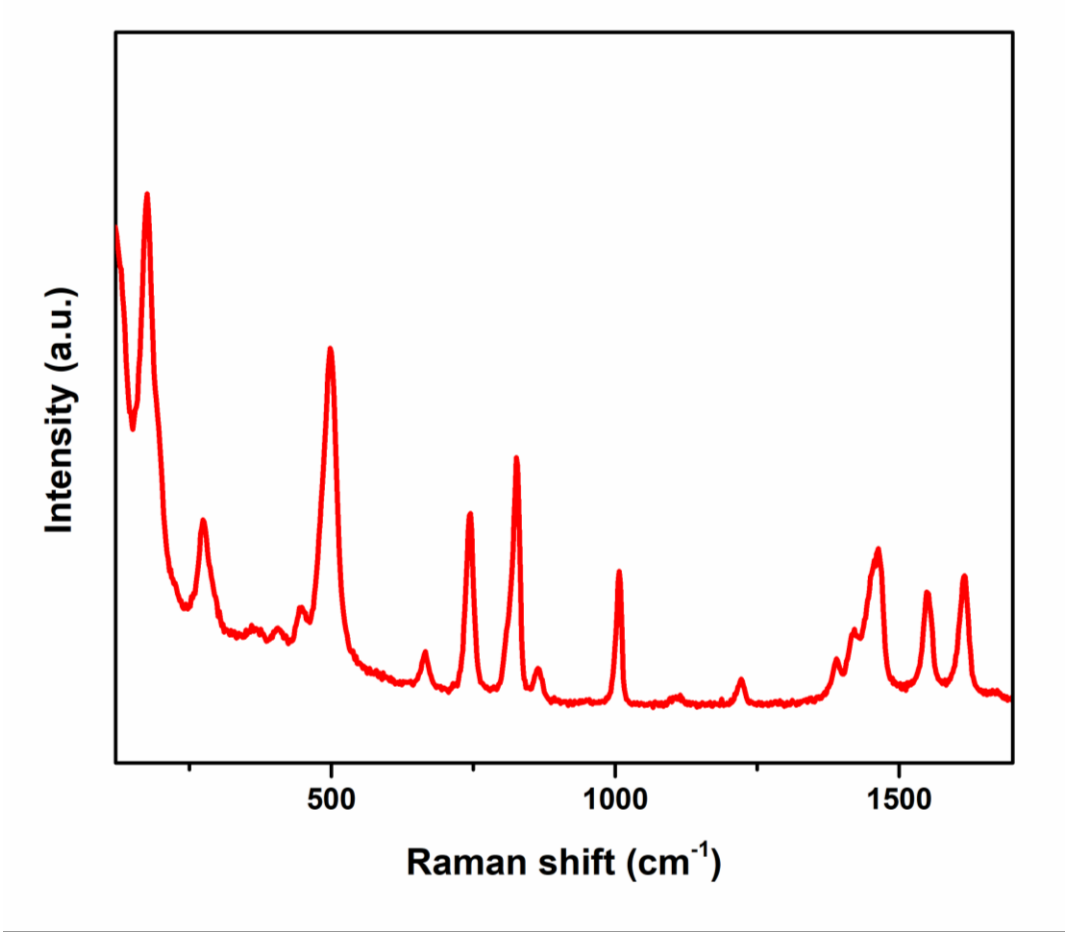

Figure S1. Raman spectrum of Cu-MOF-GO.

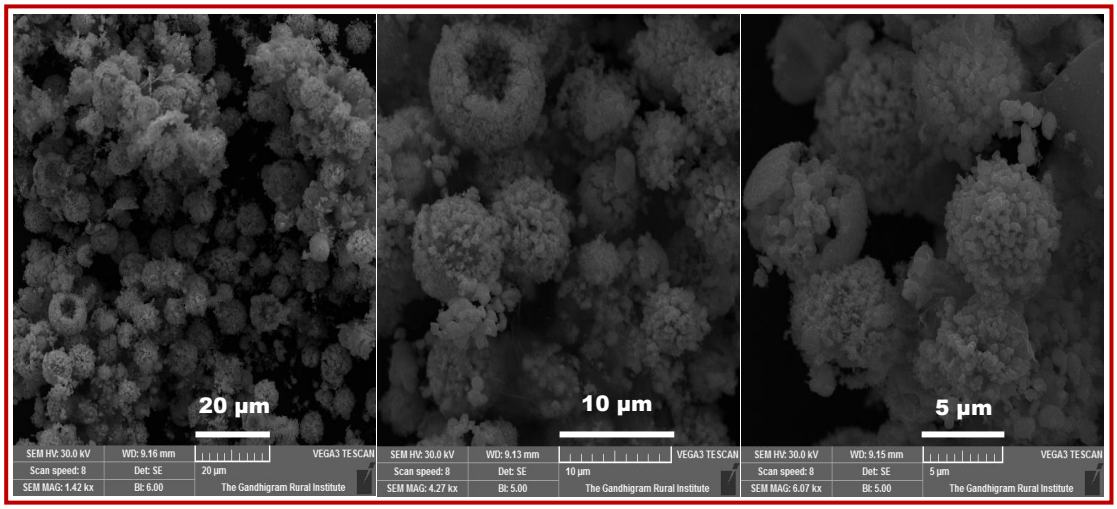

Figure S2. SEM images of Cu-MOF-GO in absence of ultrasonication.

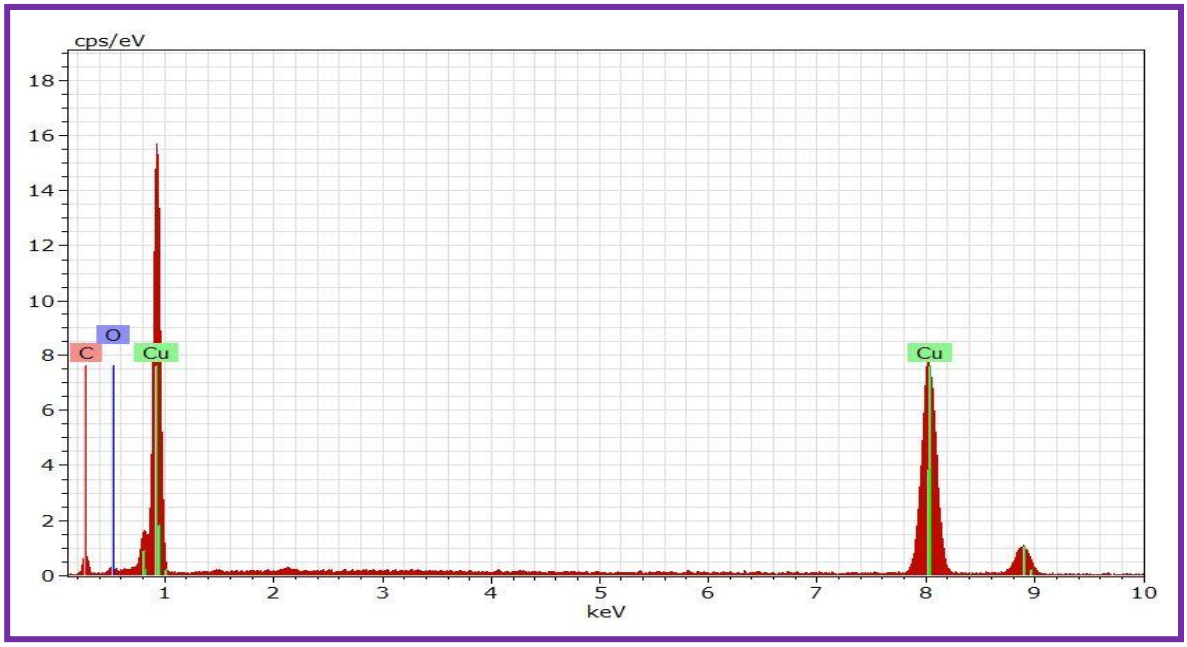

Figure S3. EDX spectrum of solid Cu-MOF-GO.

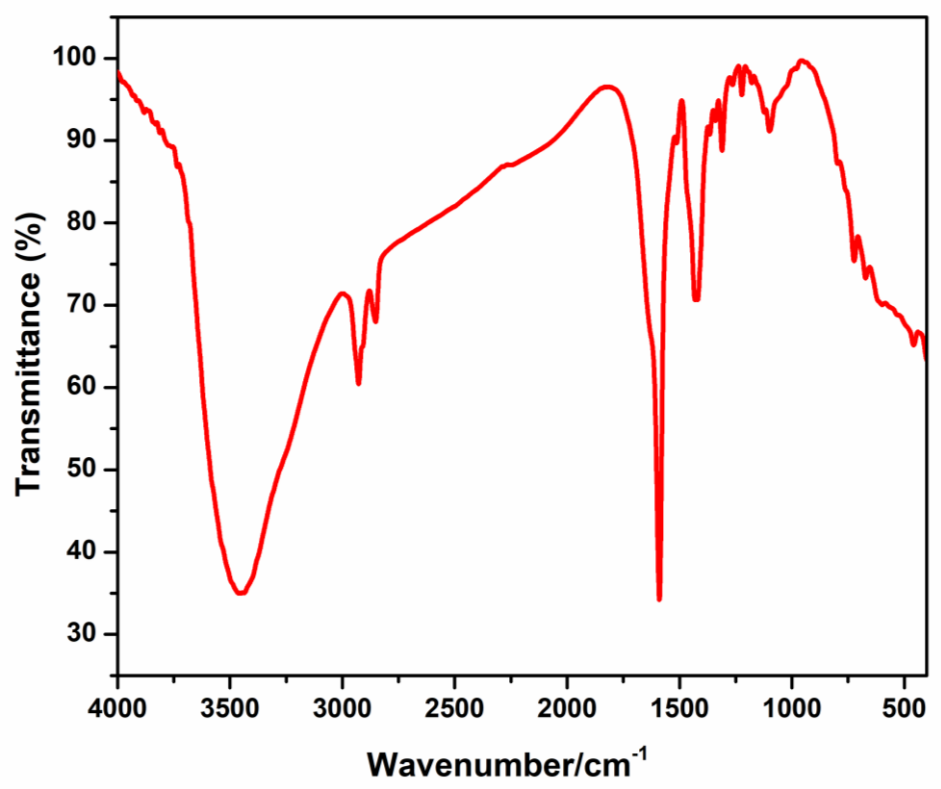

Figure S4. ATR-FT-IR spectrum of Cu-MOF-GO on GC film.

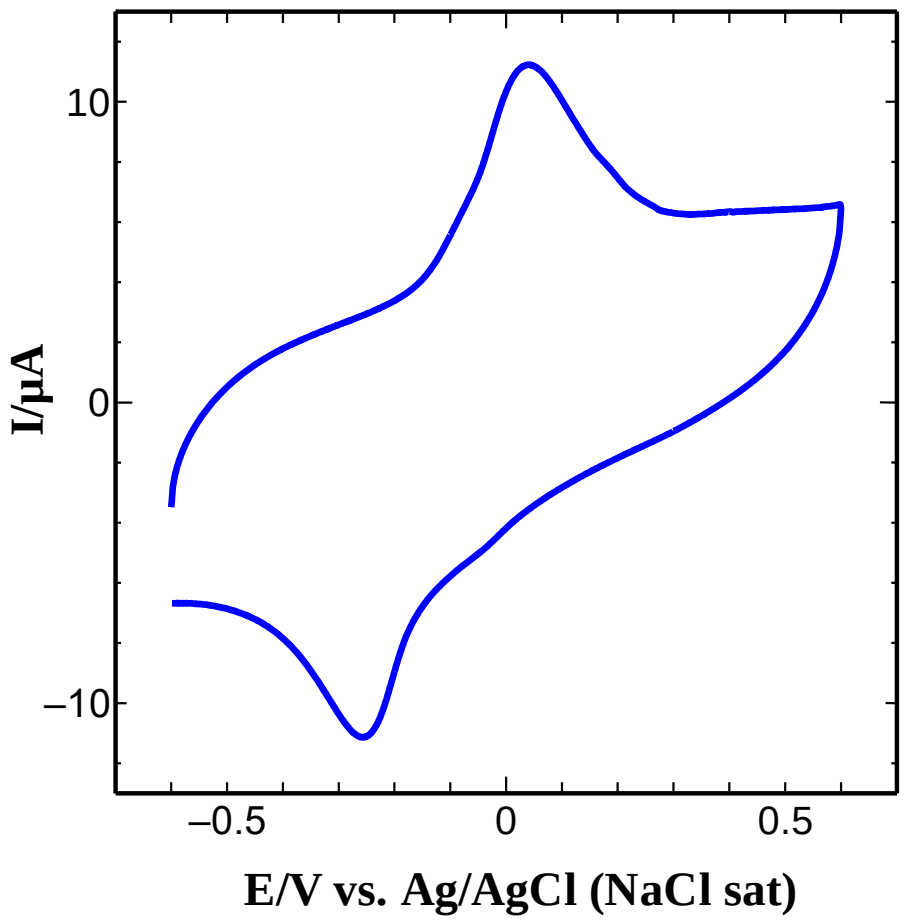

Figure S5. CV obtained at Cu-MOF-GO electrode in 0.2 M PB solution (pH 7.2) at a scan rate of 50 mV/s.

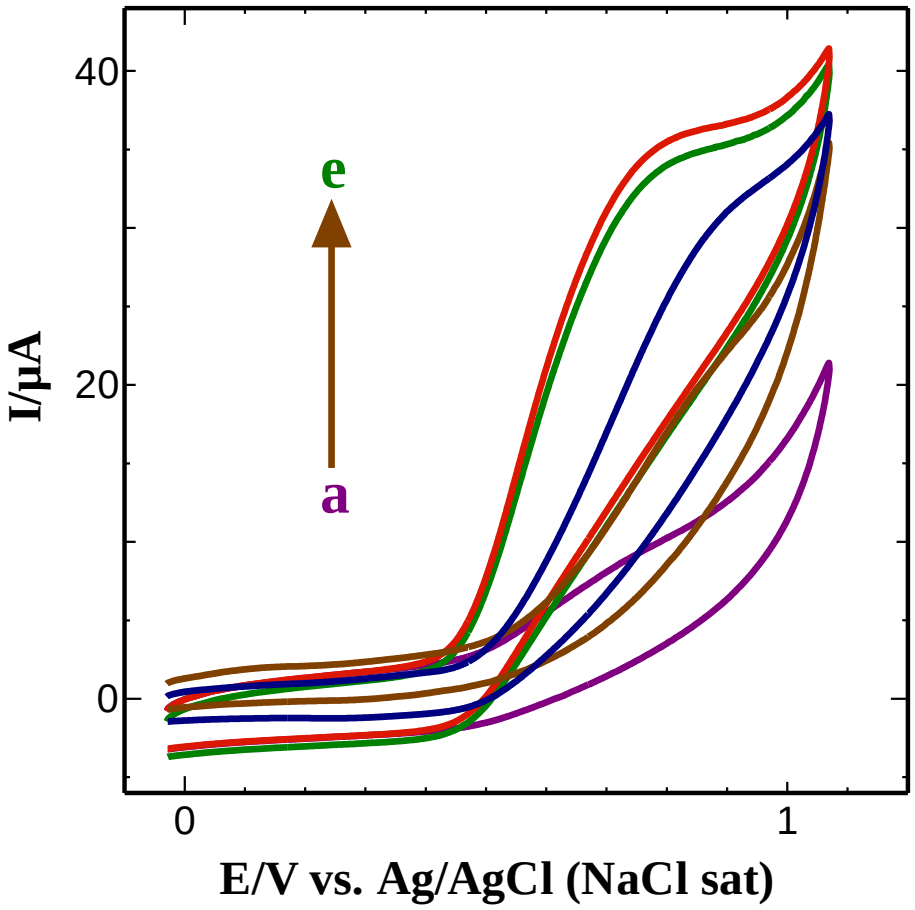

Figure S6. CVs obtained for 0.5 mM nitrite at Cu-MOF-GO/GC electrode prepared at different loading level of (a) 1, (b) 2, (c) 3, (d) 4 and (e) 5 mg/mL in 0.2 M PB solution (pH 7.2) at a scan rate of 50 mV/s.

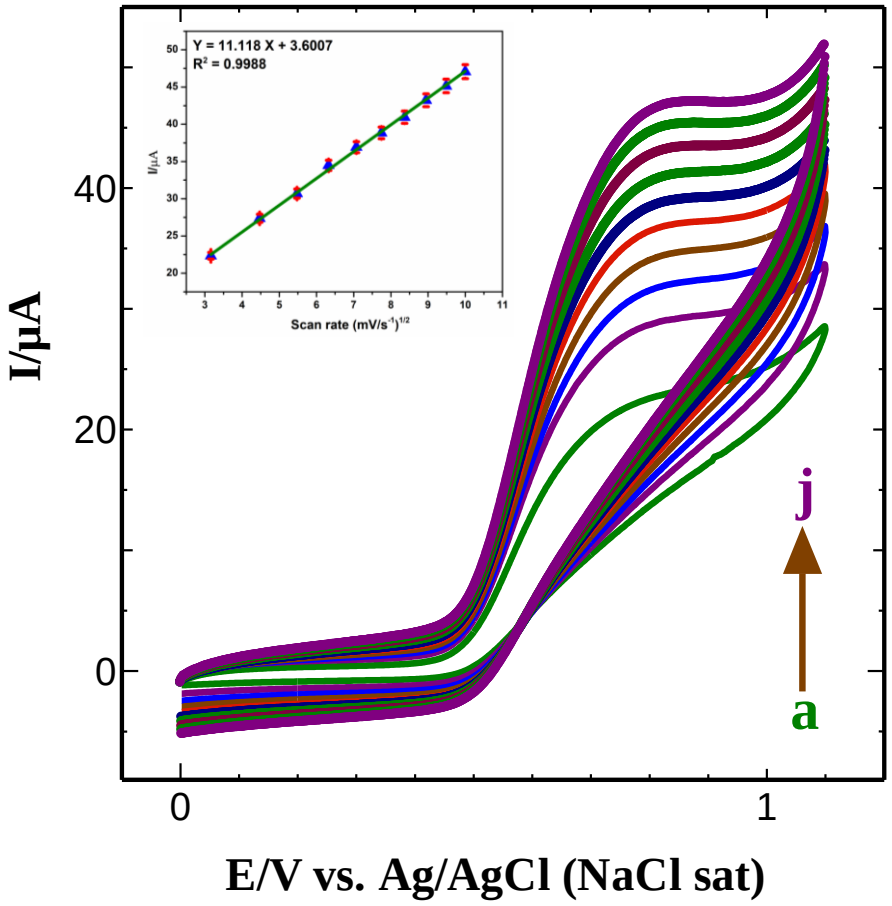

Figure S7. CVs obtained for 0.5 mM of nitrite at Cu-MOF-GO/GC electrode in 0.2 M PB solution (pH 7.2) at different scan rates: 10 to 100 mV/s (a-j). ***Inset*:** plot of current vs. square root of scan rate.

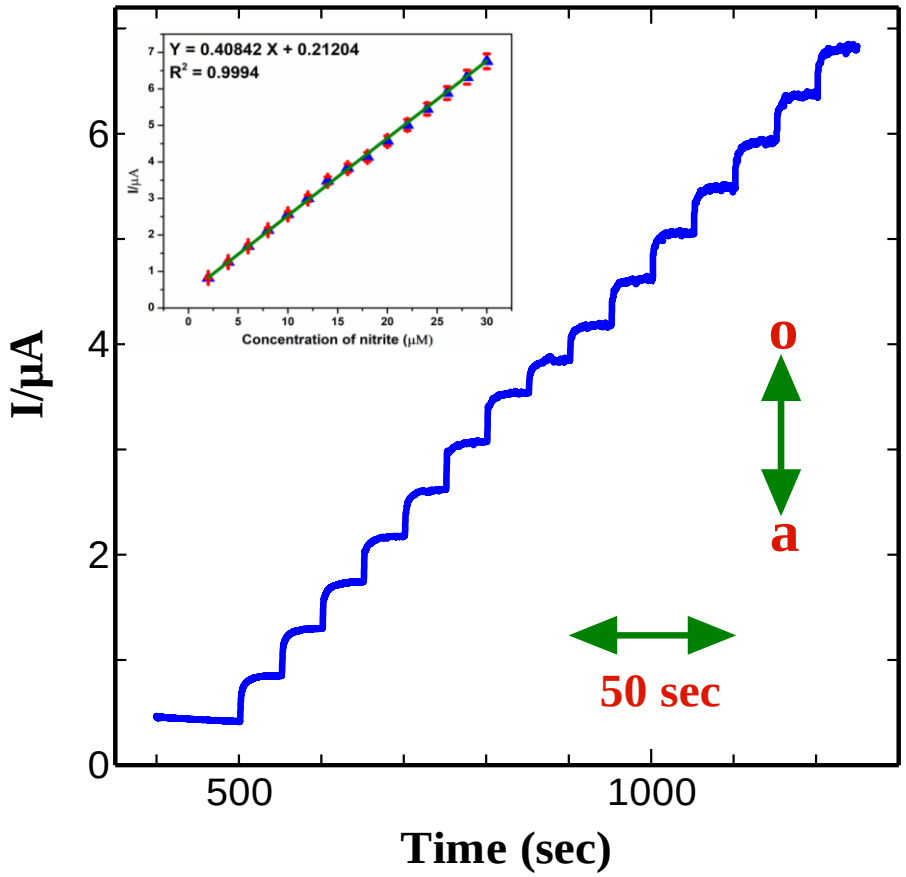

Figure S8. Amperometric i-t curve for the determination of nitrite at Cu-MOF-GO modified GC electrode in 0.2 M PB solution (pH 7.2) at an applied potential of +1.0 V. Each increment of 2 µM nitrite (a-o) at a regular interval of 50 s. ***Inset:*** plot of current vs. concentration of nitrite.

Wavenumber/cm^{-1}				Peak Assignments
AZA	**Cu-MOF**	**GO**	**Cu-MOF-GO**	
-	614	-	626	Metal stretching vibration of Cu-O
677	-	-	-	Bending vibration of -CH
724	725	-	716	-C-H out plane bending vibration
1086	1101	1090	1107	Stretching vibration of -C-O-
1420	1436	1387	1422	-OH bending vibration
-	1492	-	1495	Stretching vibration of $-CH_2$
1703	-	1634	-	Conjugated C=O stretching
2936	2847 and 2929	-	2848 and 2922	-C-H stretching vibration
3440	3448	3459	3432	-OH stretching vibration

Table S1. FT-IR spectral data and their assignments for powder AZA, Cu-MOF, GO and Cu-MOF-GO.

Sample	Added (nitrite, µM)	Present method	
		Found (µM)	Recovery (%)
Lake water	0	-	-
	5	4.98	99.6
	10	14.96	99.8
	20	34.92	99.8
Industrial effluent	-	2.30	-
	5	7.27	99.6
	10	17.23	99.7
	20	37.18	99.8

Table S2. Determination of nitrite in lake and industrial effluent samples using Cu-MOF-GO modified electrode.