Supporting Information

A Facile Synthesis of Copper Nanoparticles Supported on Ordered Mesoporous Polymer as an Efficient and Stable Catalyst for Solvent-Free Sonogashira Coupling Reactions

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Table S1 Catalytic performances of the use of different amounts of Cu NPs@MP-3 catalyst[a]

Entry	Catalyst (mol%)	Base	Temp. (^{o}C)	Time (h)	Yield (%)
1	0.50	TEA	40	8	56.6
2	0.75	TEA	40	8	82.3
3	1.0	TEA	40	8	96.0
4	1.5	TEA	40	8	99.0

[a] Reaction conditions: phenylacetylene (0.50 mmol), benzoyl chloride (0.75 mmol), Et_3N (1.5 mmol), N_2 atmosphere.

Table S2 Catalytic performances of Cu NPs@MP-3 catalyst with different reaction time[a]

Entry	Catalyst	Base	Temp. (^{o}C)	Time (h)	Yield (%)
1	Cu NPs@MP-3	TEA	40	2	36.6
2	Cu NPs@MP-3	TEA	40	4	58.6
3	Cu NPs@MP-3	TEA	40	6	86.2
4	Cu NPs@MP-3	TEA	40	8	96.0
5	Cu NPs@MP-3	TEA	40	10	99.0

[a] Reaction conditions: phenylacetylene (0.50 mmol), benzoyl chloride (0.75 mmol), 1.0 mol% catalyst, Et_3N (1.5 mmol), N_2 atmosphere.

Table S3 Catalytic performances of Cu NPs@MP-3 catalyst with different bases and base amounts[a]

Entry	Base	Base amount (mmol)	Temp. (°C)	Time (h)	Yield (%)
1	Na_2CO_3	1.5	40	8	n.r.
2	i-Pr_2NEt	1.5	40	8	28.0
3	Pyridine	1.5	40	8	42.0
4	TEA	1.5	40	8	96.0
5	TEA	0.5	40	8	58.0
6	TEA	1.0	40	8	81.0

[a] Reaction conditions: phenylacetylene (0.50 mmol), benzoyl chloride (0.75 mmol), 1.0 mol%Cu NPs@MP-3, N_2 atmosphere.

Table S4 Catalytic performances of Cu NPs@MP-3 catalyst with different reaction temperatures[a]

Entry	Catalyst	Base	Temp. (°C)	Time (h)	Yield (%)
1	Cu NPs@MP-3	TEA	20	8	28.0
2	Cu NPs@MP-3	TEA	30	8	62.0
3	Cu NPs@MP-3	TEA	40	8	96.0

[a]Reaction conditions: phenylacetylene (0.5 mmol), benzoyl chloride (0.75 mmol), 1.0 mol% catalyst, Et_3N (1.5 mmol), N_2 atmosphere.

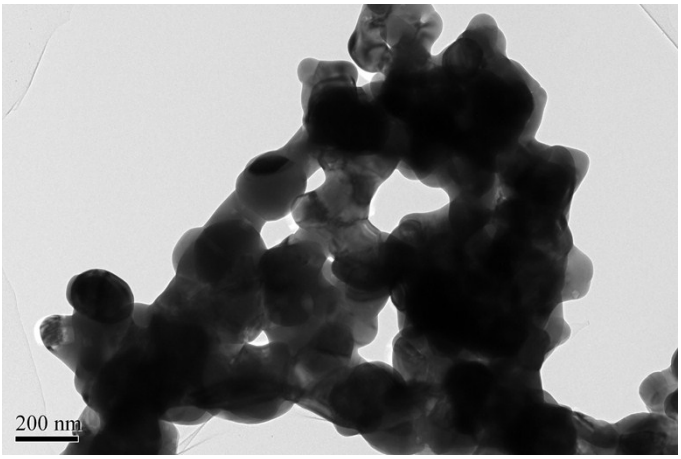

Figure S1 TEM image of the commercial Cu powder.

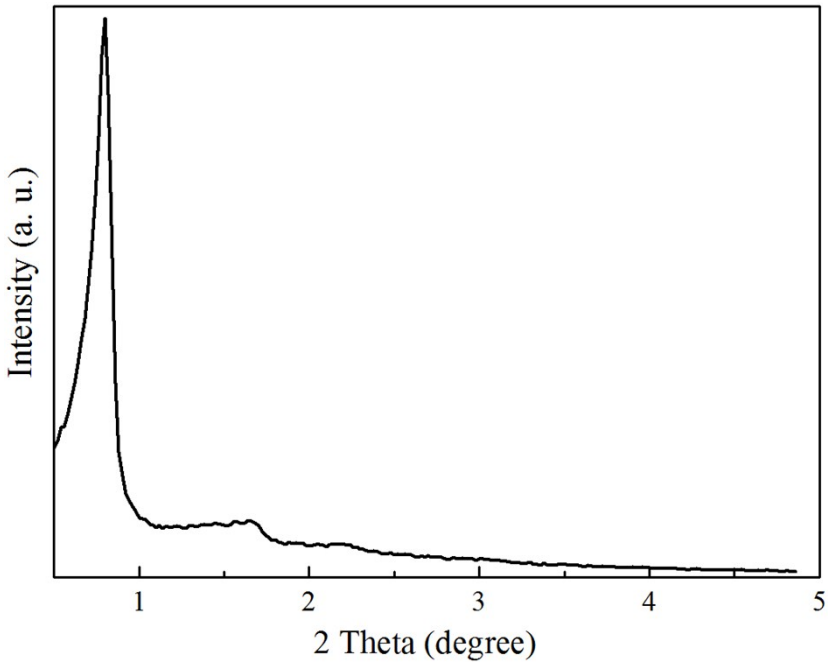

Figure S2 XRD pattern of Cu NPs@SBA-15.

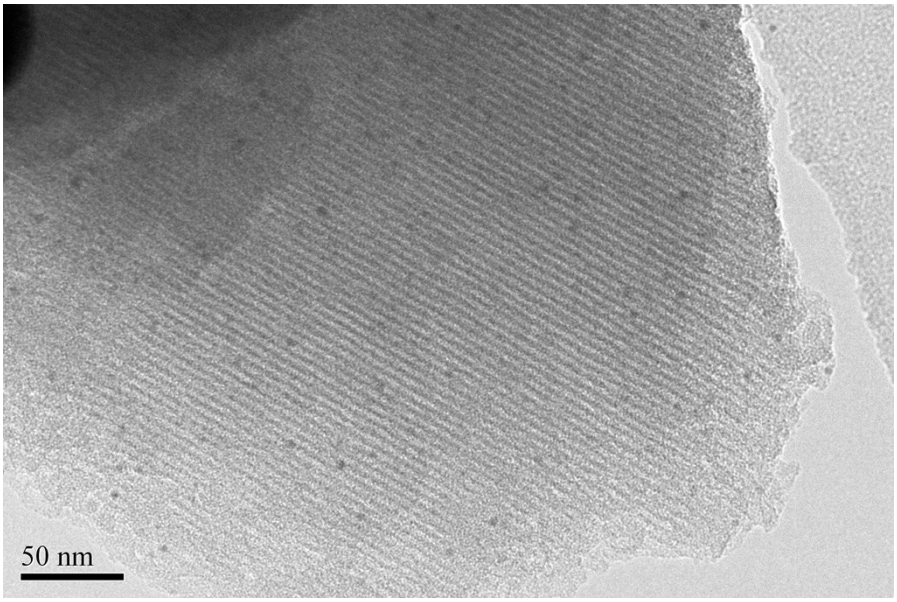

Figure S3 TEM picture of Cu NPs@SBA-15.

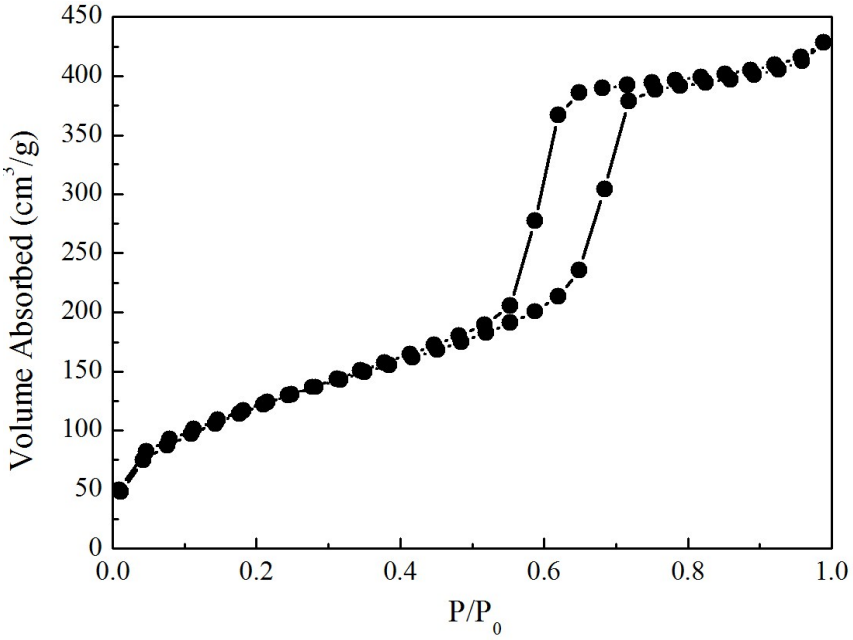

Figure S4 N_2 sorption isotherm of Cu NPs@SBA-15.

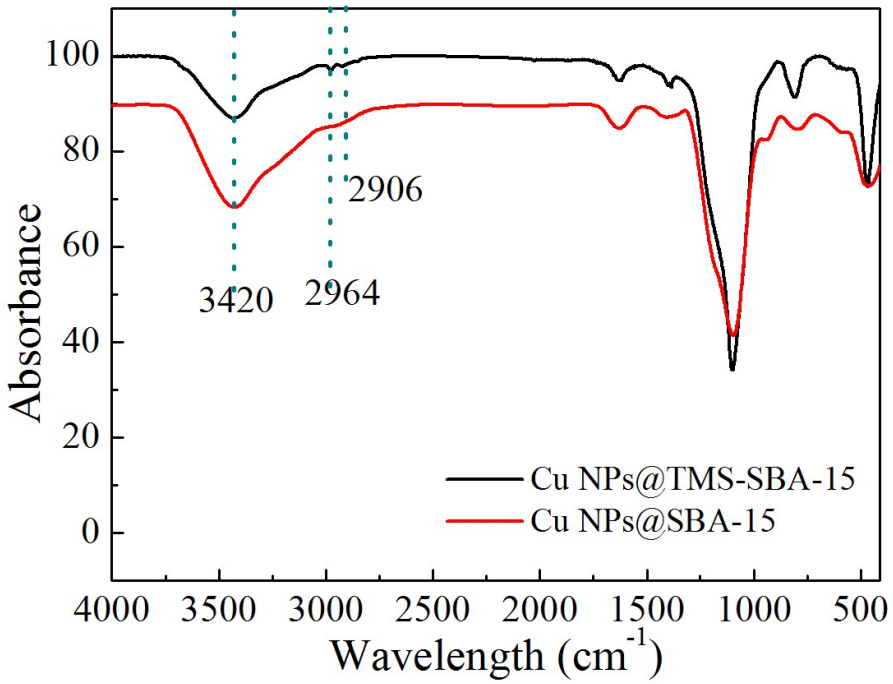

Figure S5 FT-IR spectrum of Cu NPs@TMS-SBA-15 sample.

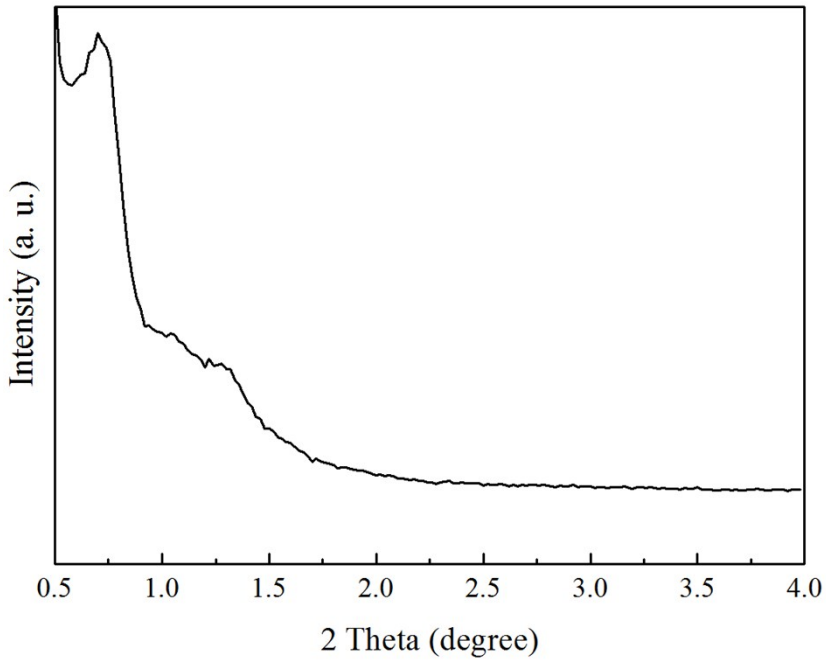

Figure S6 XRD pattern of the recycled Cu NPs@MP-3 after ten repetitions.

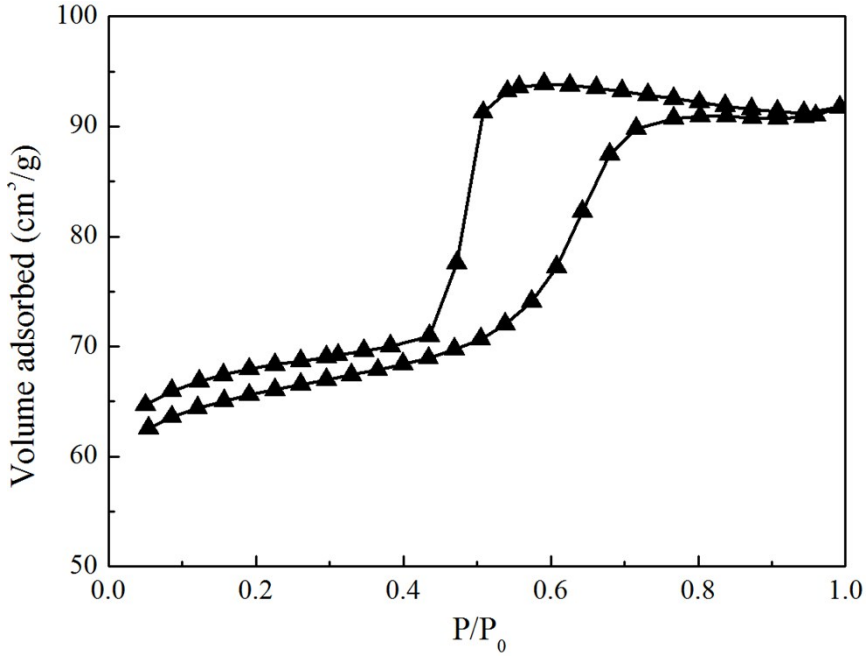

Figure S7 N_2 sorption isotherm of the recycled Cu NPs@MP-3 after ten repetitions.

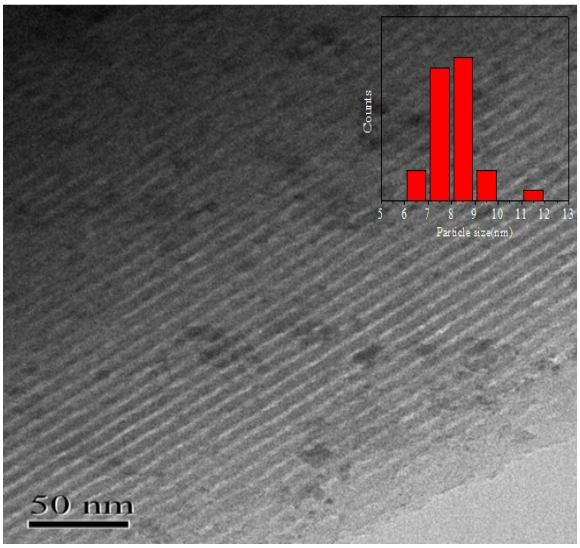

Figure S8 TEM image of the recycled Cu NPs@MP-3 catalyst after ten runs.