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# Supporting Information

## An enhanced glucose sensing based on a novel composite of $Co^{II}$-MOF/Acb modified electrode

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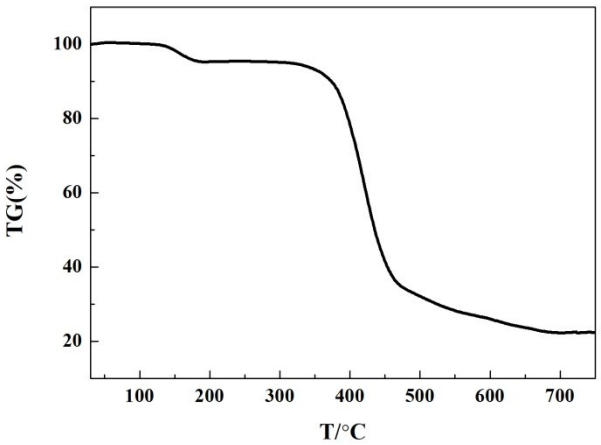


**Fig. S1** TGA of $Co^{II}$-MOF.

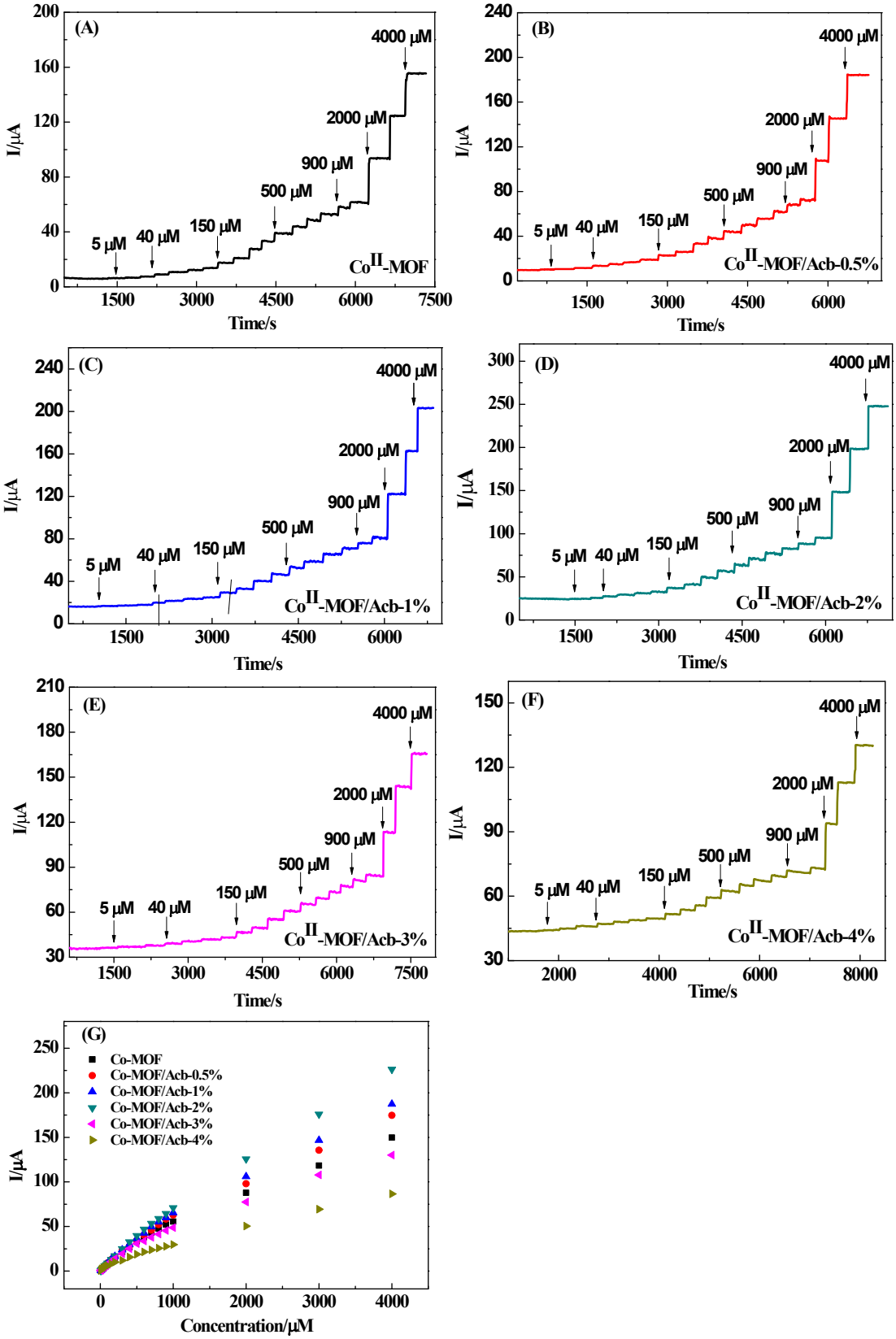


**Fig. S2** Typical amperometric transient response on successive additions of glucose for $Co^{II}$-MOF/GCE with (A) 0% Acb (B) 0.5% Acb (C) 1% Acb (D) 2% Acb

(E) 3% Acb (F) 4% Acb in 0.1 mol $L^{-1}$ NaOH. (G) The relationships between glucose concentration and current signal of $Co^{II}$-MOF/Acb/GCE with 0%, 0.5%, 1%, 2%, 3% and 4% Acb. Potential: 0.55 V.

**Table S1.** The crystallographic data of $Co^{II}$-MOF.

| $Co^{II}$-MOF | |
|---|---|
| formula | $C_{34}H_{26}N_2O_{10}Co_2$ |
| Formula mass | 740.43 |
| Temperature [K] | 293 |
| Wavelength[Å] | 0.71073 |
| Crystal system | Triclinic |
| Space group | P-1 |
| a (Å) | 8.7054(17) |
| b (Å) | 13.182(3) |
| c (Å) | 15.288(3) |
| α(°) | 108.13(3) |
| β(°) | 98.65(3) |
| γ(°) | 93.30(3) |
| V (Å$^3$) | 1638.2(6) |
| $Z$ | 2 |
| $D_{calcd.}$(mg·m$^{-3}$) | 1.501 |
| $\mu$ (mm$^{-1}$) | 1.073 |
| $F$(000) | 756 |
| $\theta$ (º) | 1.787–27.909 |
| GOF | 1.093 |
| $R_1$(I>2σ(I)) | 0.0614 |
| $wR_2$(I>2σ(I)) | 0.1074 |

$^aR_1 = \sum||F_o|-|F_c||/\sum|F_o|$. $^bwR_2 = [\sum w(F_o^2 - F_c^2)^2/\sum w(F_o^2)^2]^{1/2}$.

**Table S2.** Selected bond lengths (Å) and bond angles (°) of $Co^{II}$-MOF.

| $Co^{II}$-MOF | | | |
|---|---|---|---|
| **Bond lengths** | | | |
| Co(1)-O(4)#1 | 2.077(2) | Co(1)-O(6)#2 | 2.046(3) |
| Co(1)-O(7)#3 | 2.045(2) | Co(1)-O(9) | 2.198(2) |
| Co(1)-O(10) | 2.105(3) | Co(1)-N(1) | 2.127(3) |
| Co(2)-O(2) | 2.008(2) | Co(2)-O(3) | 2.081(2) |
| Co(2)-O(5)#2 | 1.979(3) | Co(2)-O(8)#3 | 1.957(2) |
| Co(2)-O(9) | 2.201(2) | | |
| **Bond angles** | | | |
| O(4)#1-Co(1)-O(9) | 90.39(9) | O(4)#1-Co(1)-O(10) | 88.78(10) |
| O(4)#1-Co(1)-N(1) | 90.51(11) | O(6)#2-Co(1)-O(4)#1 | 82.62(10) |
| O(6)#2-Co(1)-O(9) | 87.54(10) | O(6)#2-Co(1)-O(10) | 170.28(10) |
| O(6)#2-Co(1)-N(1) | 88.85(12) | O(7)#3-Co(1)-O(4)#1 | 173.90(10) |
| O(7)#3-Co(1)-O(6)#2 | 103.41(11) | O(7)#3-Co(1)-O(9) | 88.97(9) |
| O(7)#3-Co(1)-O(10) | 85.28(10) | O(7)#3-Co(1)-N(1) | 90.53(11) |
| O(10)-Co(1)-O(9) | 97.07(9) | O(10)-Co(1)-N(1) | 86.70(11) |
| N(1)-Co(1)-O(9) | 176.14(11) | O(2)-Co(2)-O(3) | 85.77(11) |
| O(2)-Co(2)-O(9) | 86.25(10) | O(3)-Co(2)-O(9) | 169.81(9) |
| O(5)#2-Co(2)-O(2) | 125.80(10) | O(5)#2-Co(2)-O(3) | 93.98(11) |
| O(5)#2-Co(2)-O(9) | 95.82(10) | O(8)#3-Co(2)-O(2) | 124.32(11) |
| O(8)#3-Co(2)-O(3) | 89.06(10) | O(8)#3-Co(2)-O(5)#2 | 109.86(11) |
| O(8)#3-Co(2)-O(9) | 90.21(10) | | |

Symmetry transformations used to generate equivalent atoms: #1 x+1,y,z; #2 -x,-y+1,-z+2; #3 x,y-1,z.