Electronic Supplementary Material (ESI) for CrystEngComm.

Supporting information:

One-step room temperature rapid synthesis of Cu_2Se nanostructures, phase transformation and formation of p-Cu_2Se/p-Cu_3Se_2 heterojunctions

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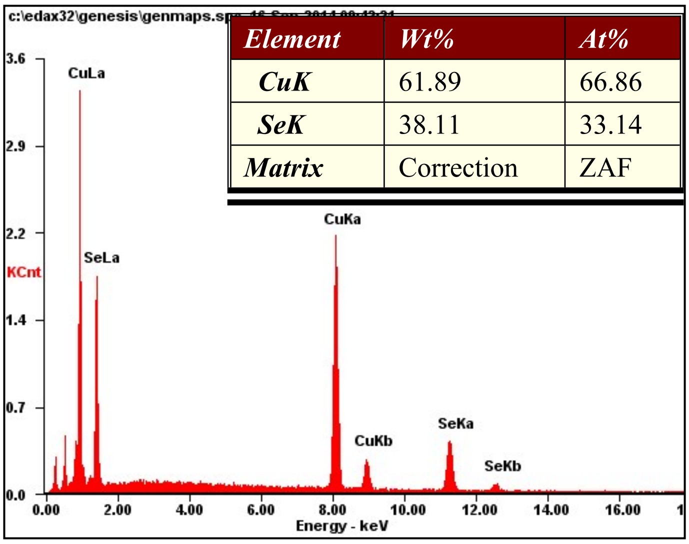

Element	Wt%	At%
CuK	61.89	66.86
SeK	38.11	33.14
Matrix	Correction	ZAF

Fig. S1 EDX spectrum and element ratio of the as-prepared Cu_2Se powder.

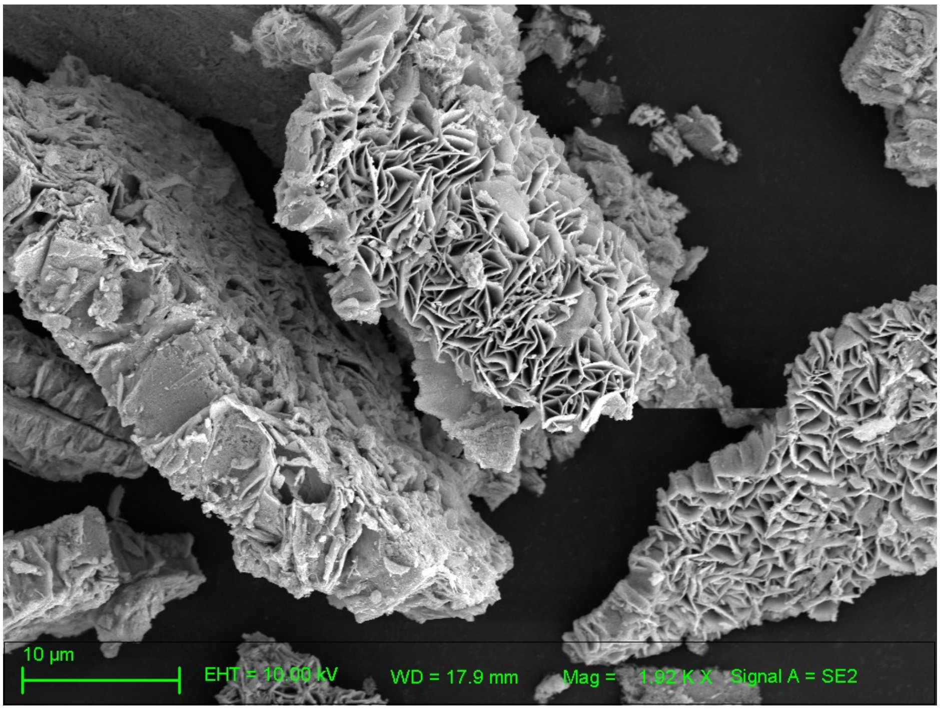

Fig. S2 SEM image of the selected un-detached Cu_2Se powder after calcination at 300 °C for 3 h. The 3D flower-like microstructures on top of the nanosheet array were separated from the surface.

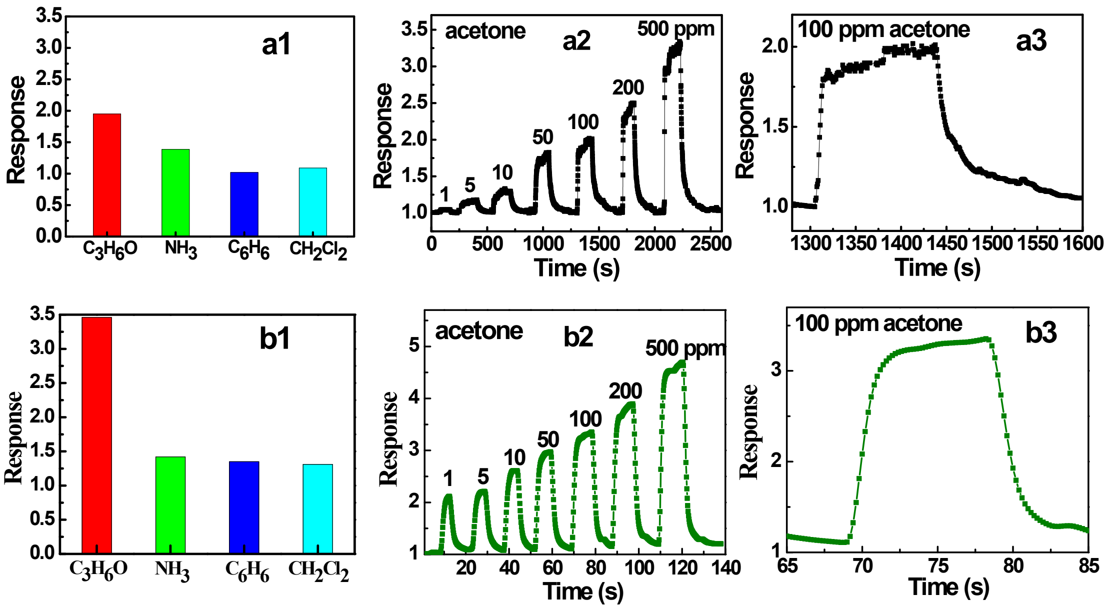

Fig. S3 (a1,b1) Gas-sensing selectivity of the Cu_2Se sensor and Cu_2Se/Cu_3Se_2 sensor, respectively, to various gases (100 ppm) at the operating temperature of 300 °C. (a2,b2) Dynamic response-recovery curves of the Cu_2Se sensor and Cu_2Se/Cu_3Se_2 sensor, respectively, to acetone gas with various concentrations. (a3,b3) Transient responses of the Cu_2Se sensor and Cu_2Se/Cu_3Se_2 sensor, respectively, to 100 ppm acetone gas.