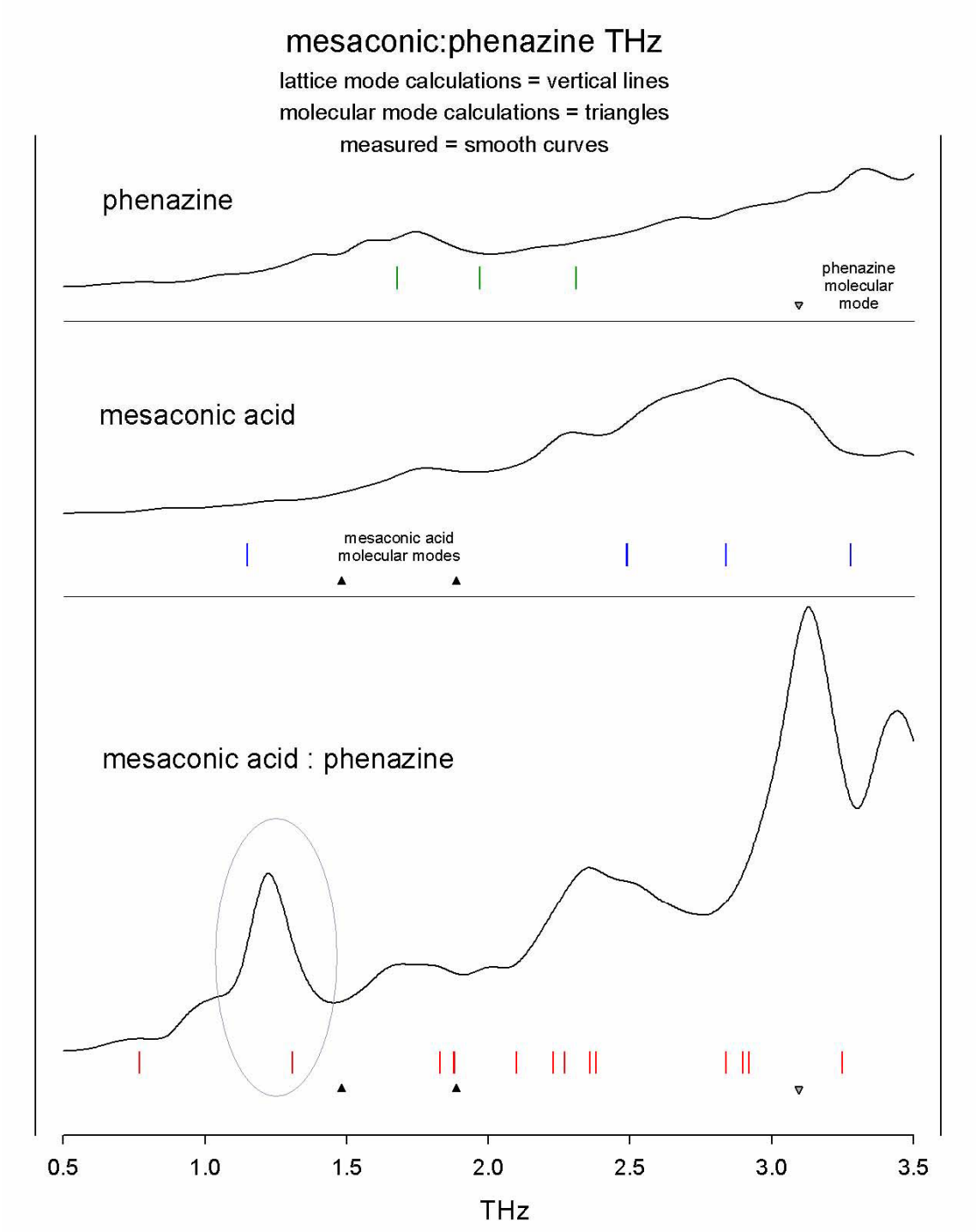
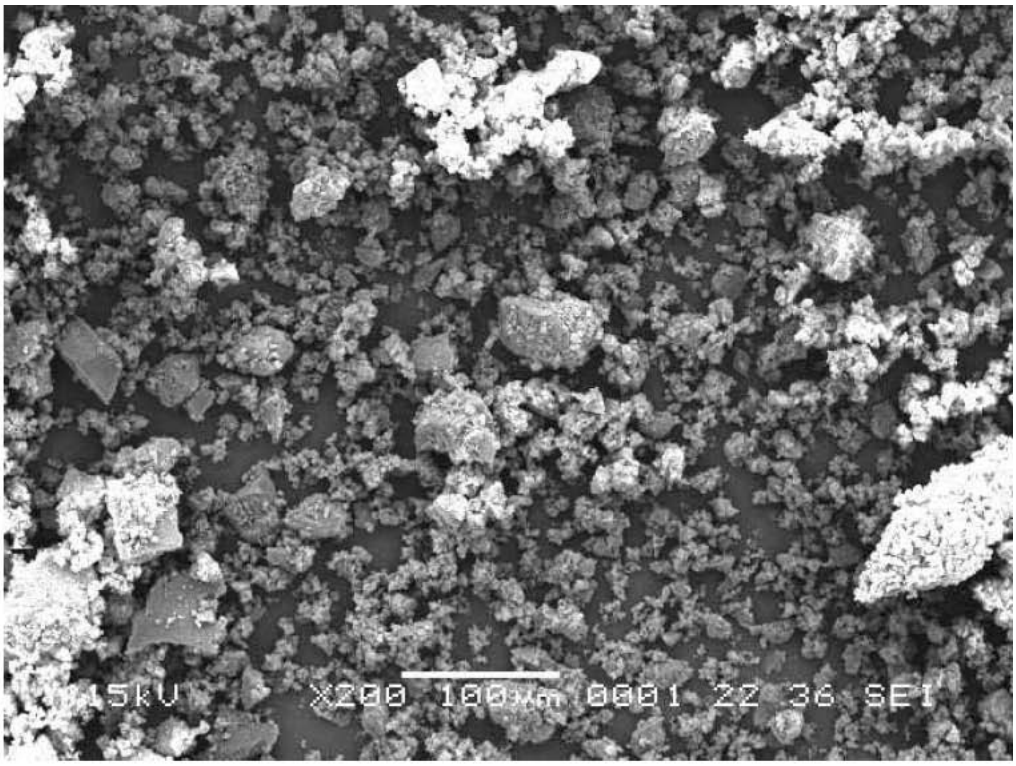


Figure S1. From top to bottom: comparison of simulated and measured THz spectra for phenazine, mesaconic acid and the phenazine-mesaconic acid cocrystal.

a)



b)

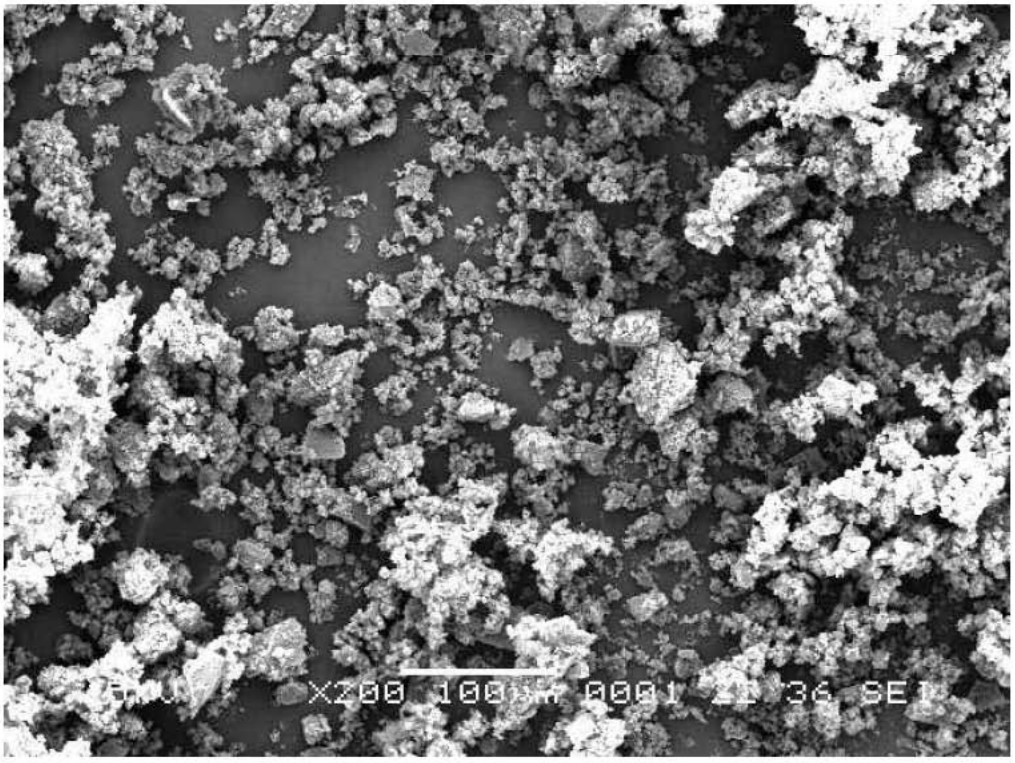
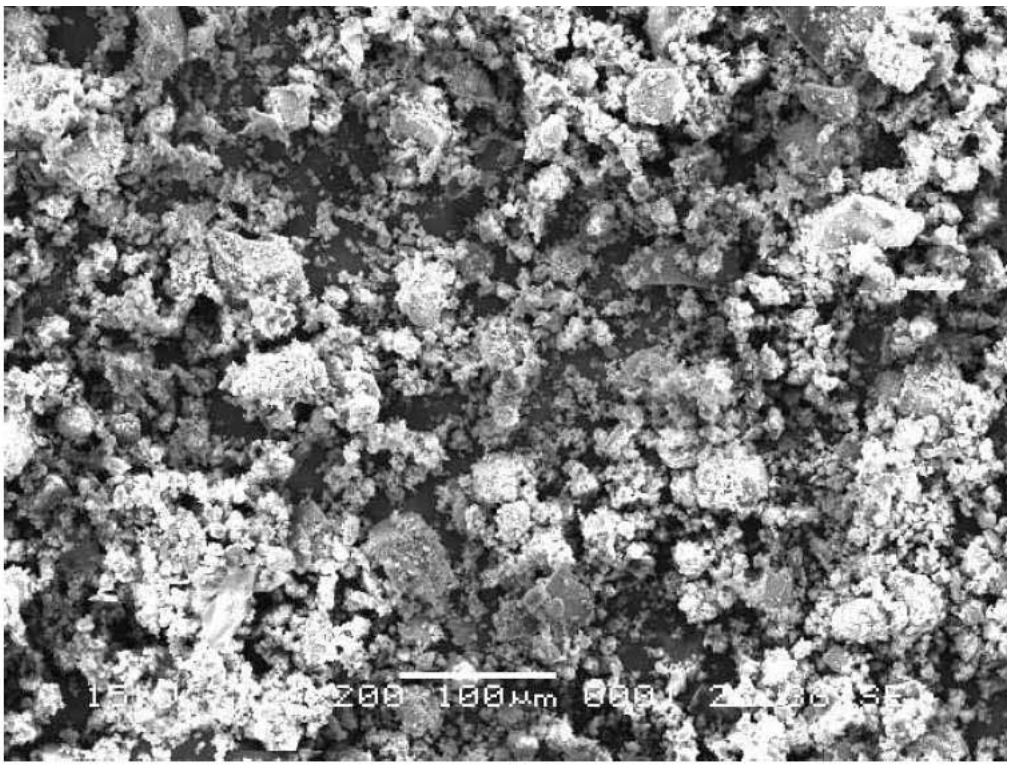


Figure S2. SEM images of the 1:1 mixture of phenazine and mesaconic acid ground for 60 minute: a) freshly prepared sample and b) sample after standing over a period of 4 days.

a)



b)

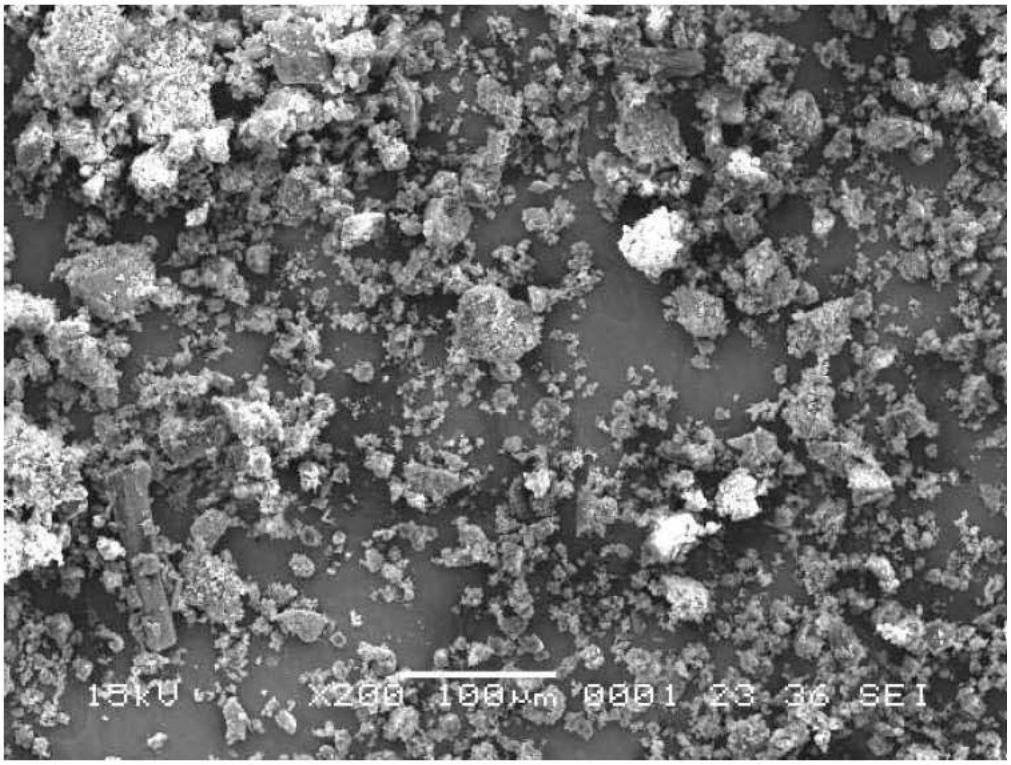
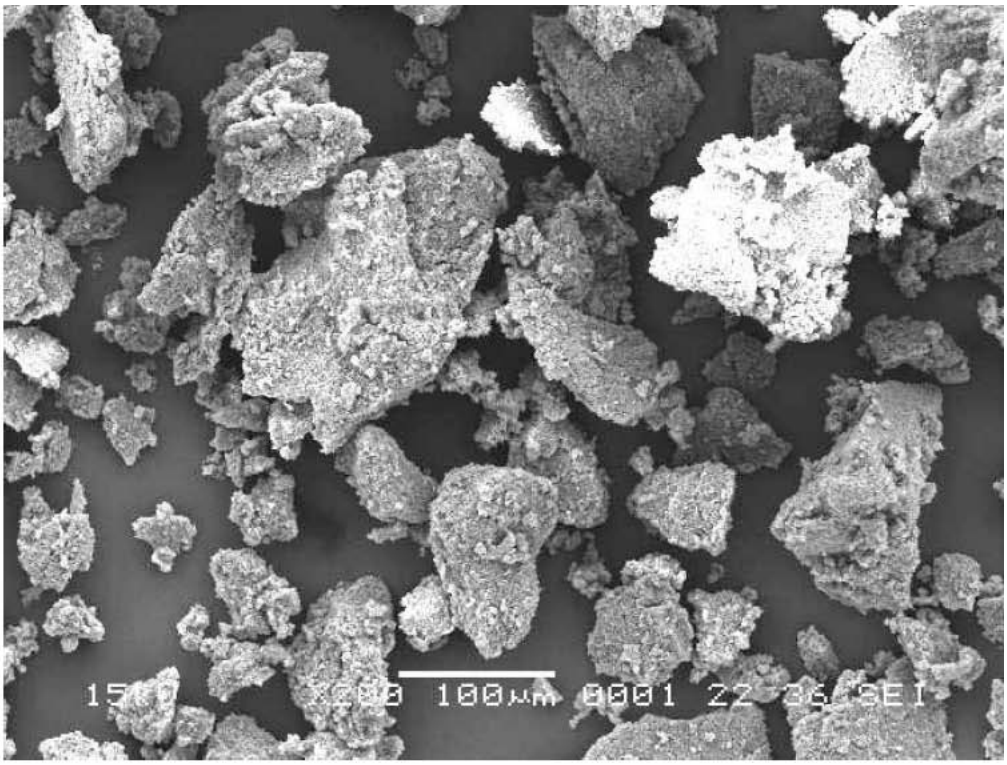


Figure S3. SEM images of the 1:1 mixture of phenazine and mesaconic acid ground for 90 minute: a) freshly prepared sample and b) sample after standing over a period of 4 days.

a)



b)

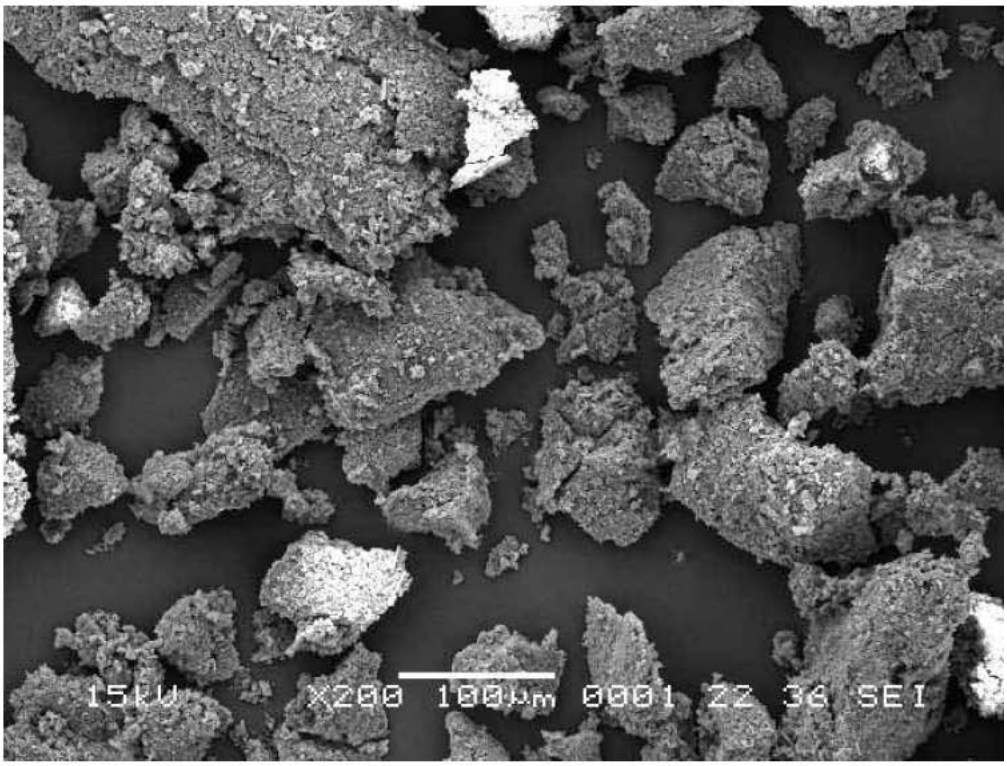


Figure S4. SEM images of the 1:1 mixture of phenazine and mesaconic acid ground for 15 minutes in the presence of ethanol: a) freshly prepared sample and b) sample after standing over a period of 4 days.

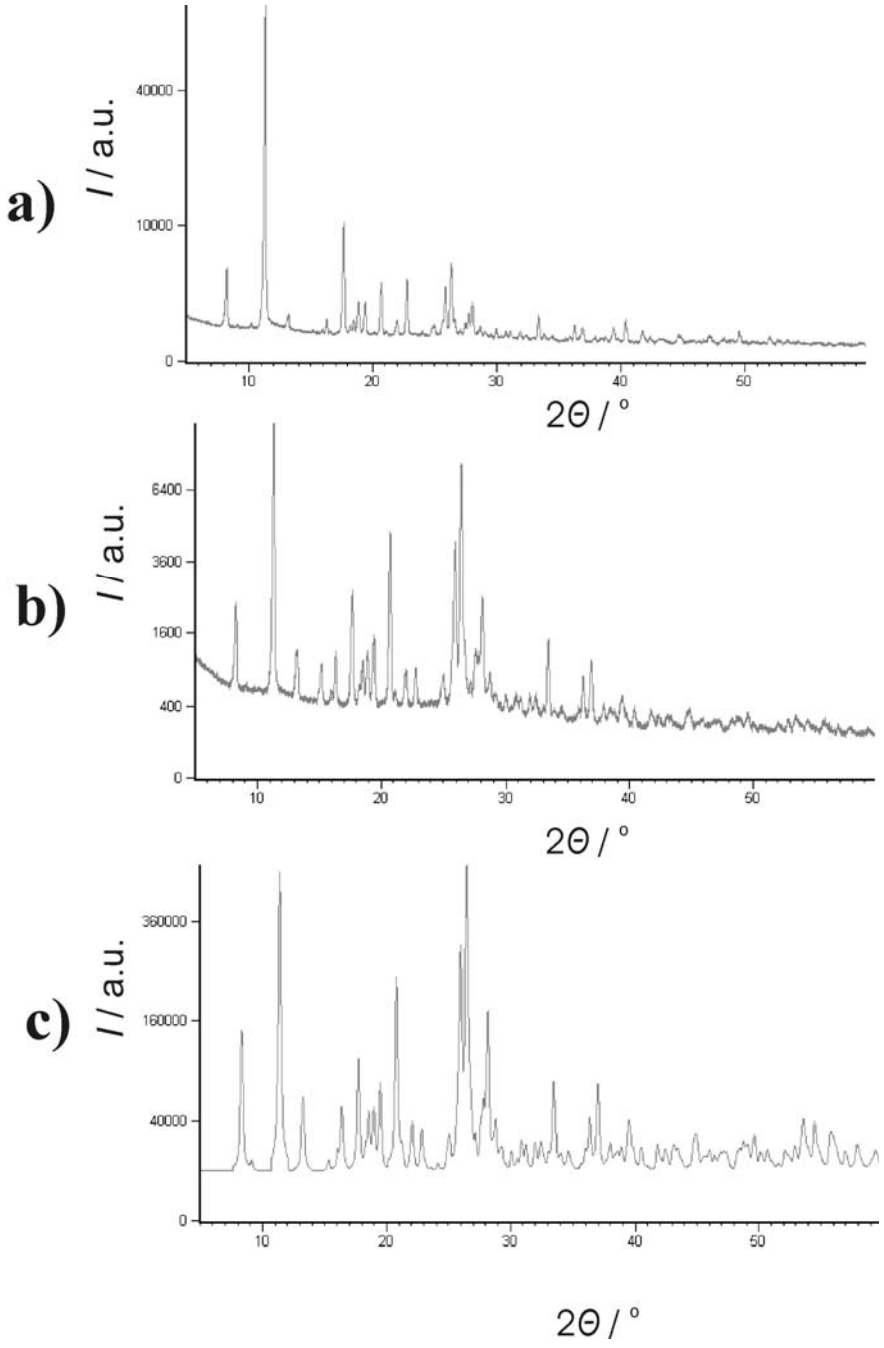


Figure S5. Powder X-ray diffraction patterns of: **a** (**phen**)$_2$(**mes**) cocrystal; **b** an equimolar mixture of **phen** and **mes**, ground for 15 minutes with a single drop of ethanol and c simulated pattern of (**phen**)$_2$(**mes**).

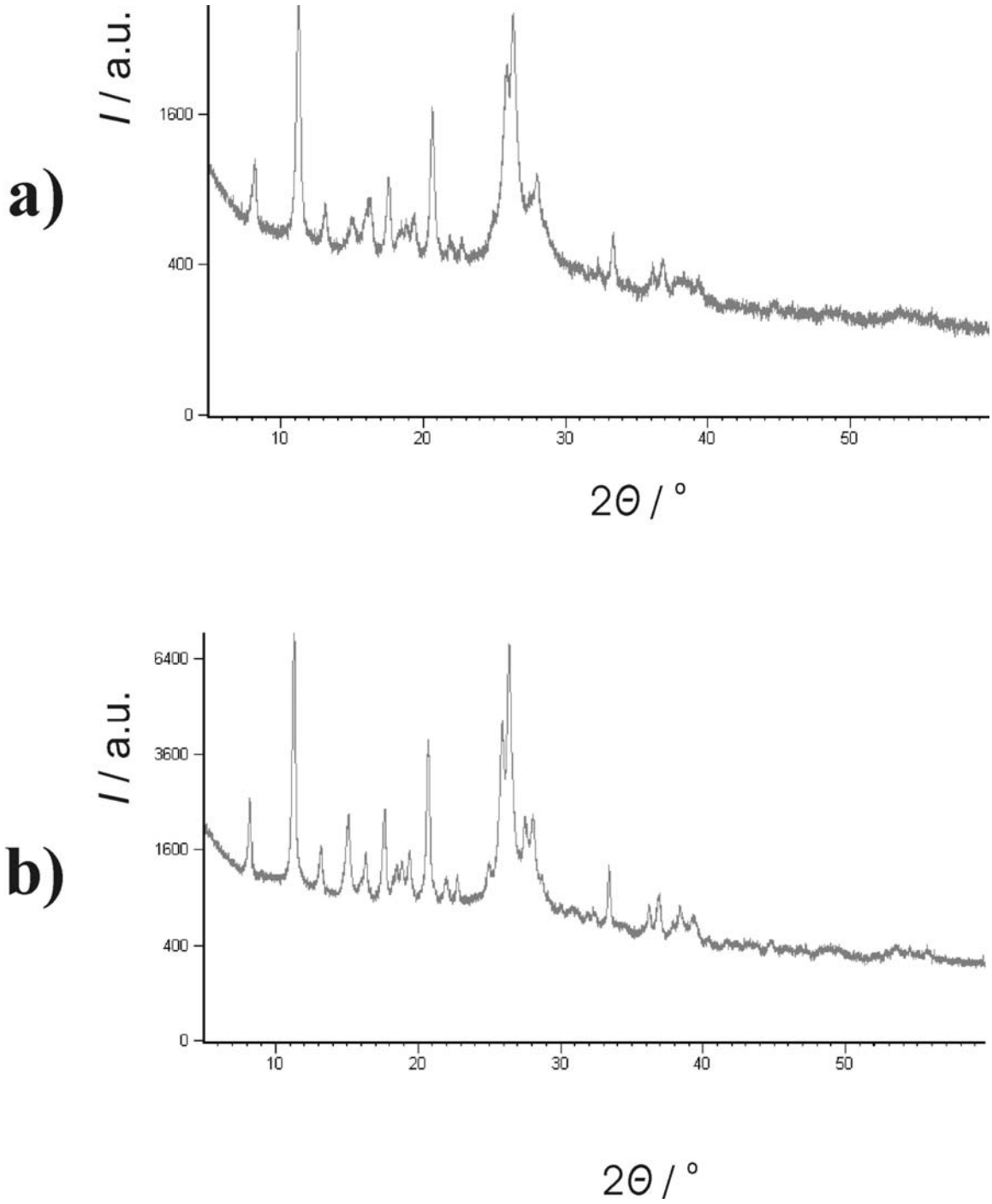


Figure S6. Powder X-ray diffraction patterns of an equimolar mixture of **phen** and **mes** ground for 20 minutes: **a** immediately after grinding and **b** after 4 days ageing.

Details of lattice dynamics calculations

THz spectra were calculated using rigid molecule lattice dynamics[1], in the same way as described before[2]. Molecular geometries were taken from the experimentally determined crystal structures. Intermolecular interactions were evaluated using the W99 model potential[3] and a distributed multipole analysis for electrostatic model, derived from a B3LYP/6-31G** wavefunction (calculated using the CADPAC program[4]). Phonon frequencies were calculated at the lattice energy minimum for each crystal structure using the program DMAREL[5].

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2. Day, G. M., Zeitler, J. A., Jones, W., Rades, T., Taday, P. F. *J. Phys. Chem. B* **110**, 447-456 (2006).
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