Supplementary Material (ESI) for CrystEngComm

SUPPORTING INFORMATION

Schiff base derived from 2-hydroxy-1-naphthaldehyde and liquid-assisted mechanochemical synthesis of its isostructural Cu(II) and Co(II) complexes

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Figure S22. PXRD patterns for mechanochemical and solution-based experiments involving cobalt(II) acetate tetrahydrate and compound **1**: a) compound **1**, b) cobalt(II) acetate tetrahydrate, c) LAG product obtained by grinding of Co(II) acetate tetrahydrate and compound **1** in the presence of 40 μL triethylamine (the acetic acid solvate of compound **3** is a major product and compound **3** is in traces), d) LAG product obtained by grinding of Co(II) acetate tetrahydrate and compound **1** in the presence of 50 μL triethylamine (the acetic acid solvate of compound **3** is a major product and compound **3** is in traces), e) compound **3** obtained by annealing of LAG product, f) compound **3** obtained by solution-based method, g) simulated pattern for compound **3** and h) compound **3** after three days standing in acetic acid vapour 12

Figure S23. PXRD patterns for mechanochemical and solution-based experiments involving copper(II) acetate monohydrate and the compound **1**: a) compound **1**, b) copper acetate monohydrate, c) product obtained by neat grinding, d) LAG product obtained by grinding in the presence of 30 μL acetonitrile (compound **2**), e) LAG product obtained by grinding in the presence of 30 μL methanol (compound **2)**, f) LAG product obtained by grinding in the presence of 30 μL triethylamine (compound **2**) and g) compound **2** obtained by solution-based method. 13

Figure S24. PXRD patterns for mechanochemical experiments involving cobalt(II) acetate tetrahydrate and **1**: a) compound **1,** b) cobalt(II) acetate tetrahydrate, c) product obtained by neat grinding, d) LAG product obtained by grinding in the presence of 30 μL acetonitrile (acetic acid solvate of compound **3** is a major product and cobalt(II) acetate tetrahydrate is in traces), e) LAG product obtained by grinding in the presence of 30 μL methanol (acetic acid solvate of compound **3**), f) LAG product obtained by grinding in the presence of 30 μL triethylamine (acetic acid solvate of compound **3** is a major product and compound **3** is in traces), g) compound **3** obtained by solution-based method and h) compound **3** after three days standing in acetic acid vapour. 14

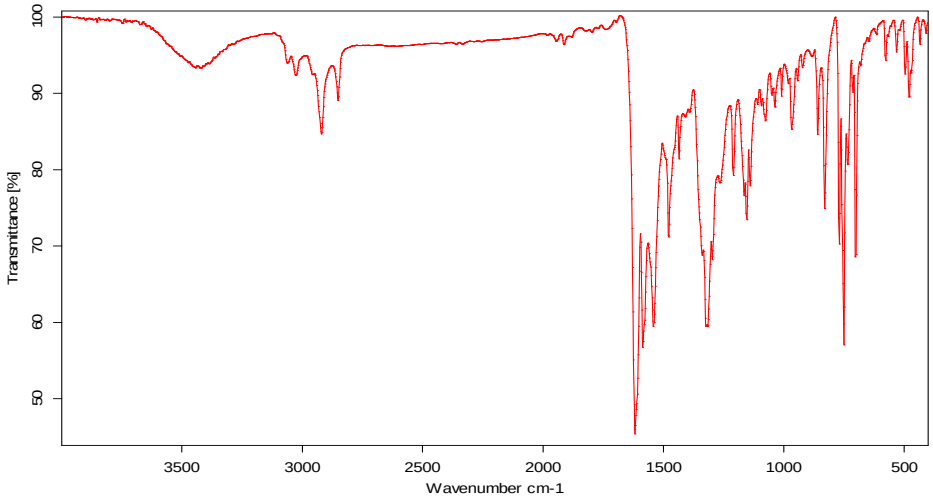


Figure S1. IR spectrum for compound **1**.

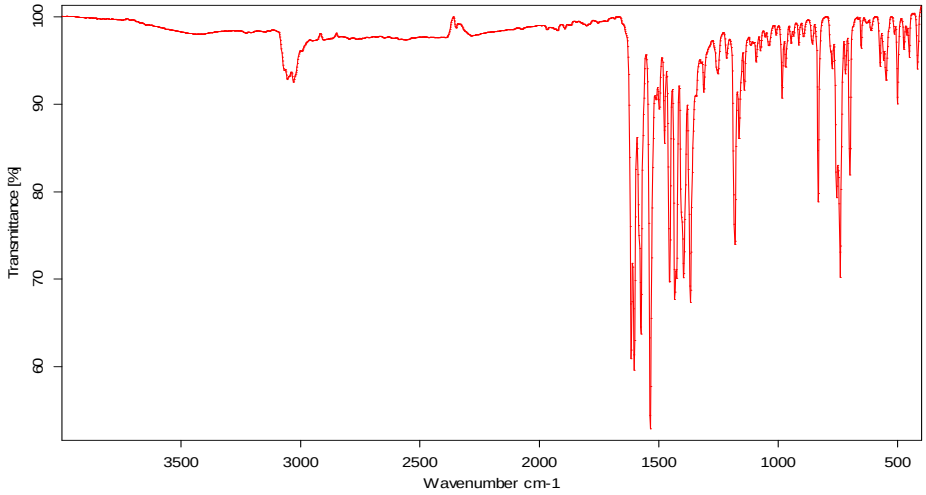


Figure S2. IR spectrum for compound **2** synthesised by solution-based method.

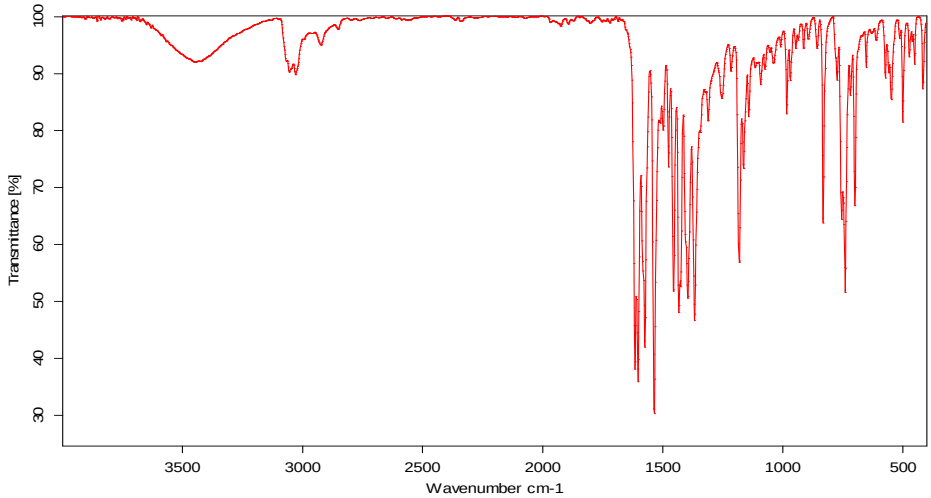


Figure S3. IR spectrum for compound **2** synthesised via grinding.

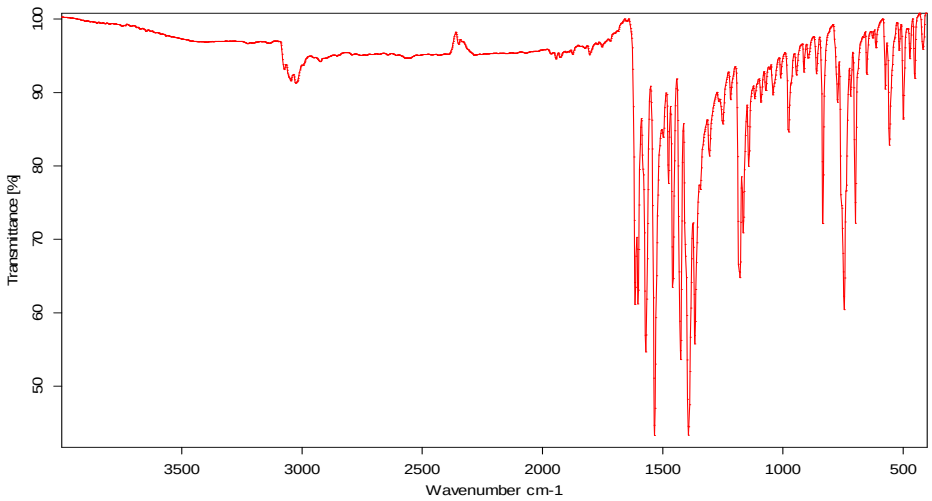


Figure S4. IR spectrum for compound **3** synthesised by solution-based method.

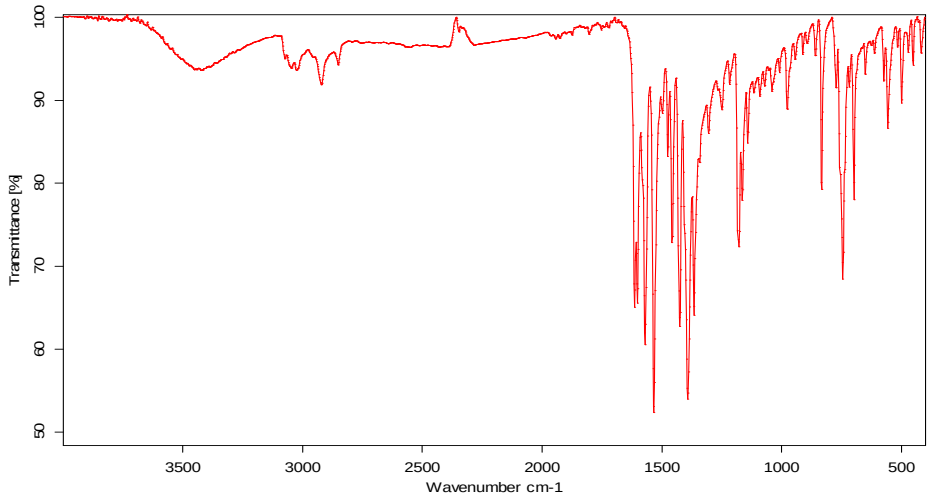


Figure S5. IR spectrum for compound **3** synthesised via grinding.

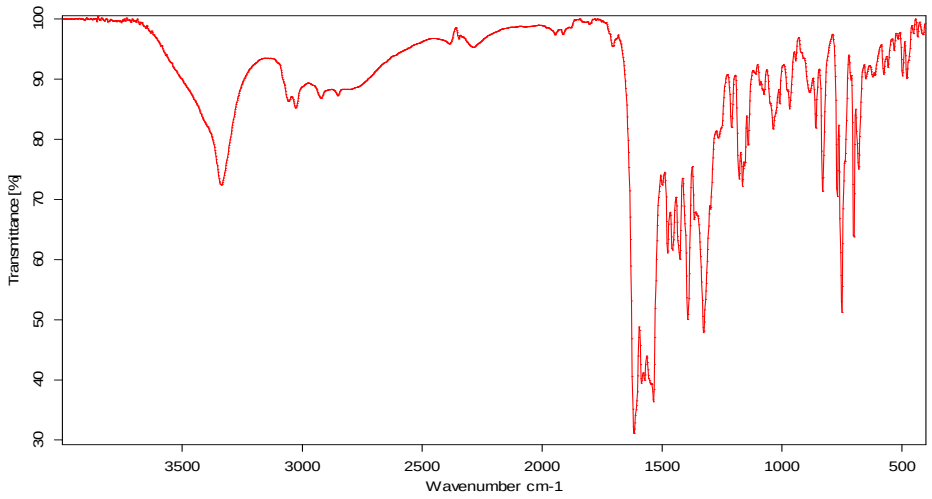


Figure S6. IR spectrum for the product of grinding of Co(II) acetate and compound **1**, i.e. the acetic acid solvate of compound **3**.

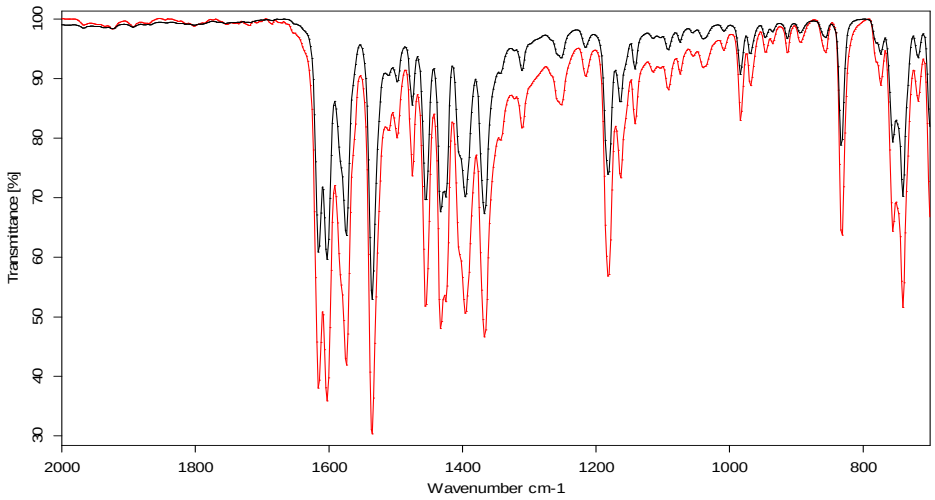


Figure S7. IR spectra for compound **2** synthesised by solution-based method (black) and via grinding (red).

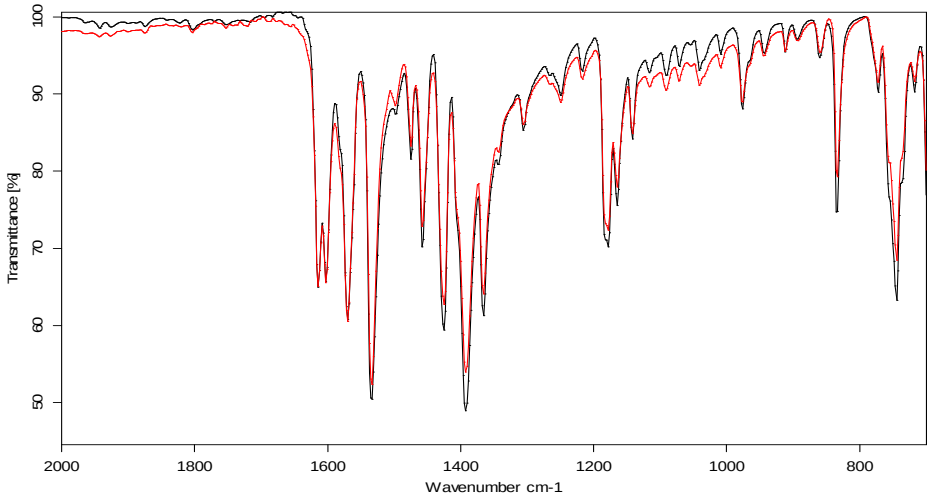


Figure S8. IR spectra for compound **3** synthesised by solution-based method (black) and via grinding (red).

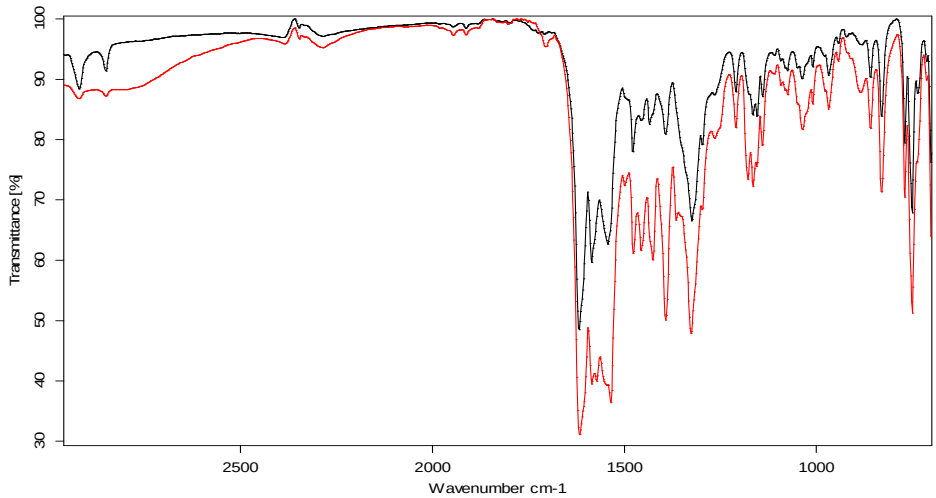


Figure S9. IR spectra for the product of grinding of Co(II) acetate and compound **1**, i.e. the acetic acid solvate of compound **3** (red) and compound **3** after three days standing in acetic acid vapour (black).

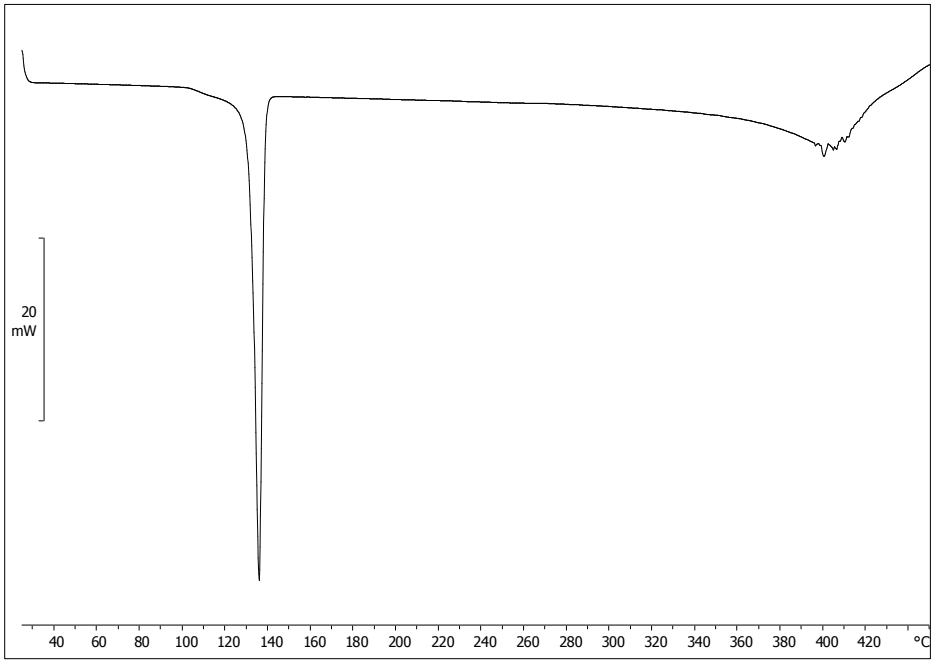


Figure S10. DSC curve for compound **1**.

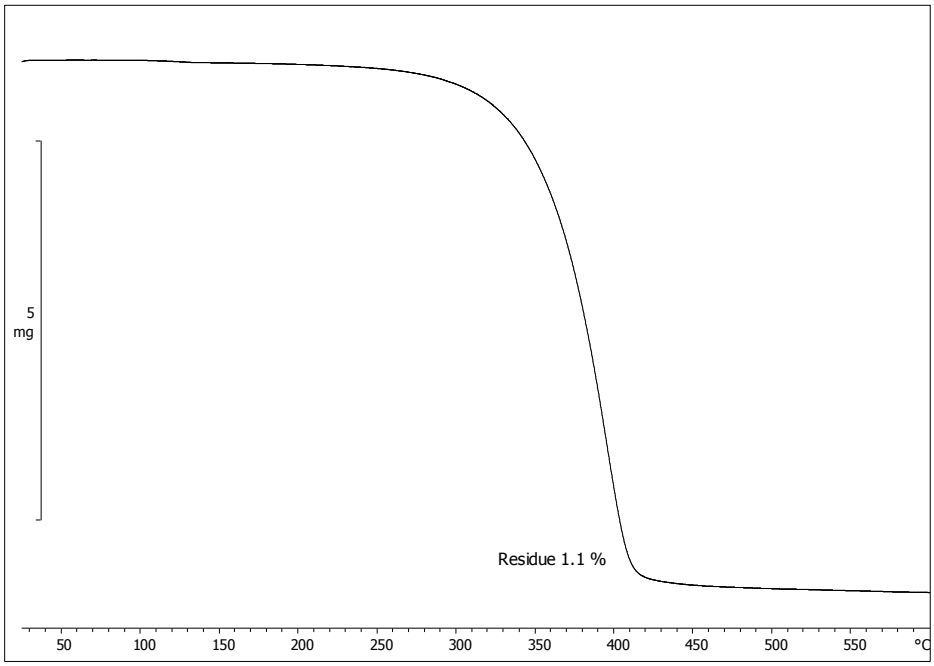


Figure S11. TG curve for compound **1**.

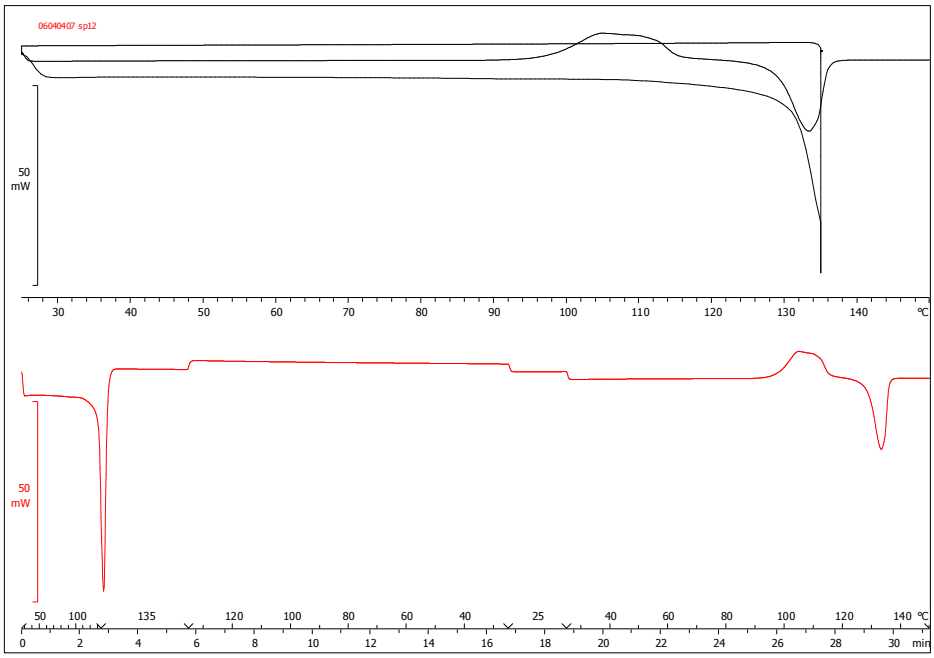


Figure S12. DSC curve of nonisothermal crystallisation experiment for compound **1**.

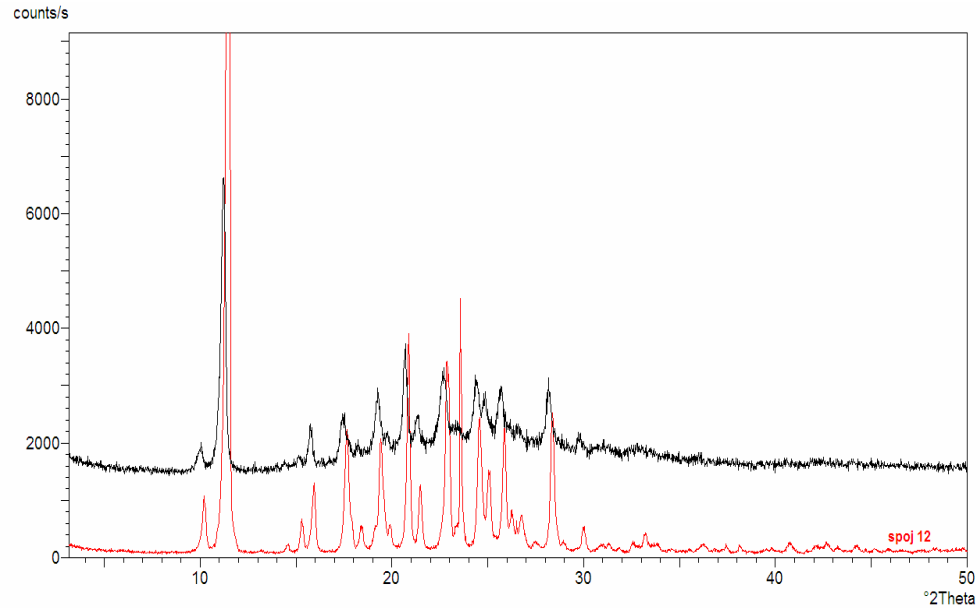


Figure S13. PXRD patterns for compound **1** before (red) and after (black) experiment of nonisothermal crystallisation.

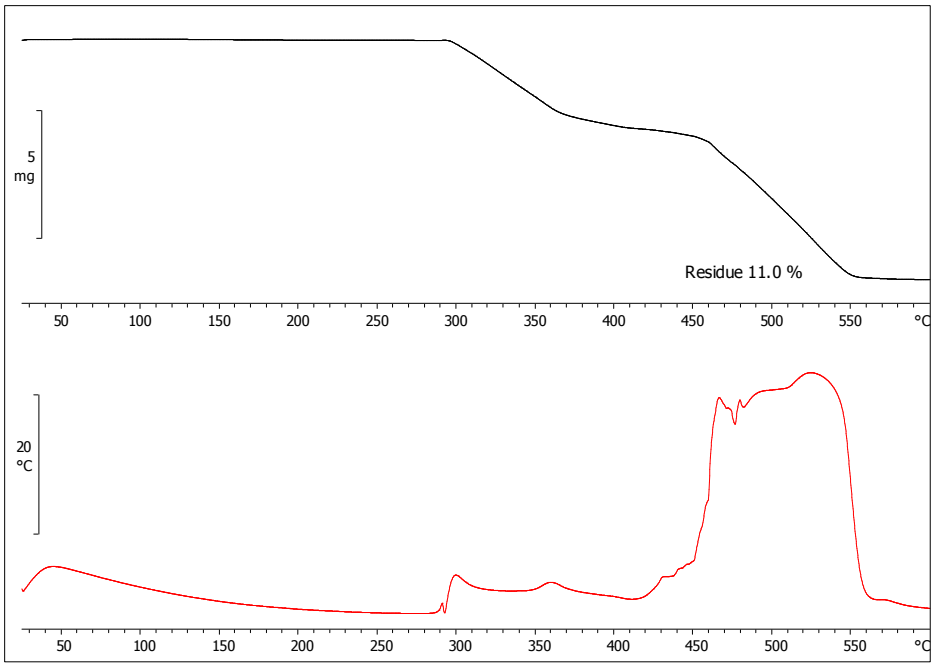


Figure S14. TG (black) and DTA (red) curves for compound **2** synthesised by solution-based method.

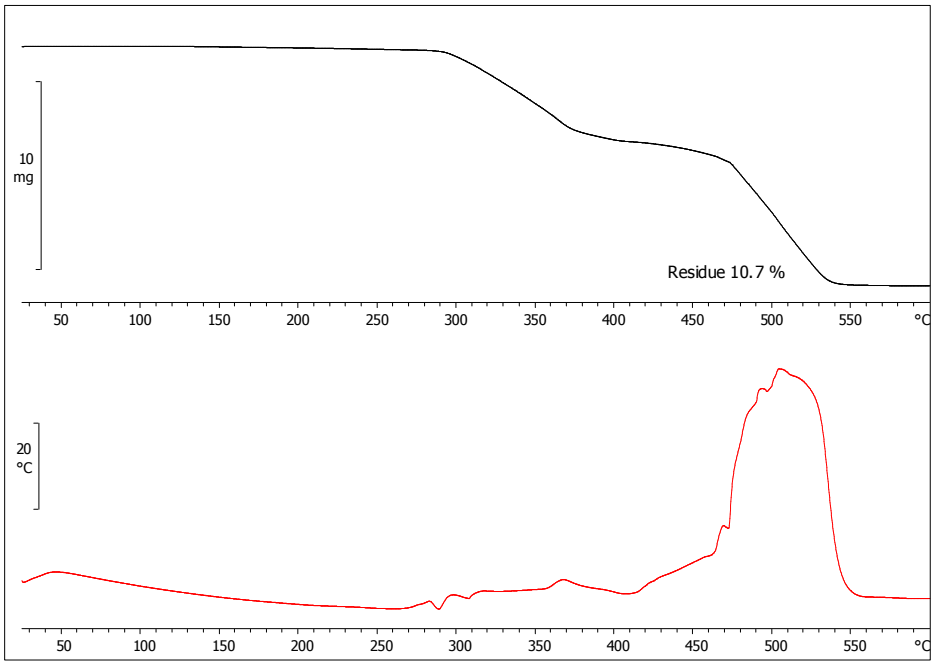


Figure S15. TG (black) and DTA (red) curves for compound **2** synthesised via grinding.

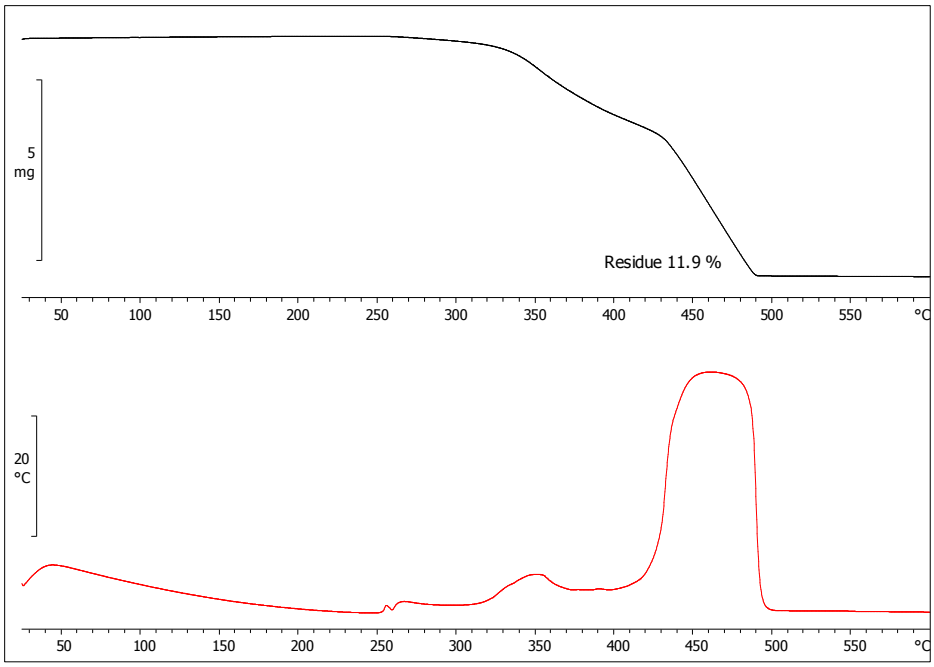


Figure S16. TG (black) and DTA (red) curves for compound **3** synthesised by solution-based method.

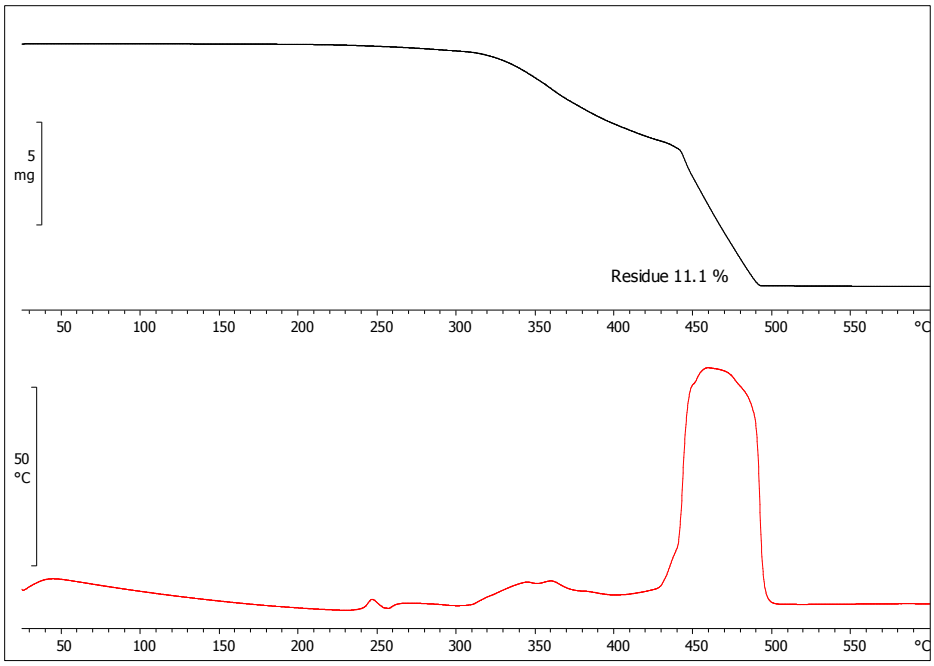


Figure S17. TG (black) and DTA (red) curves for compound **3** synthesised via grinding.

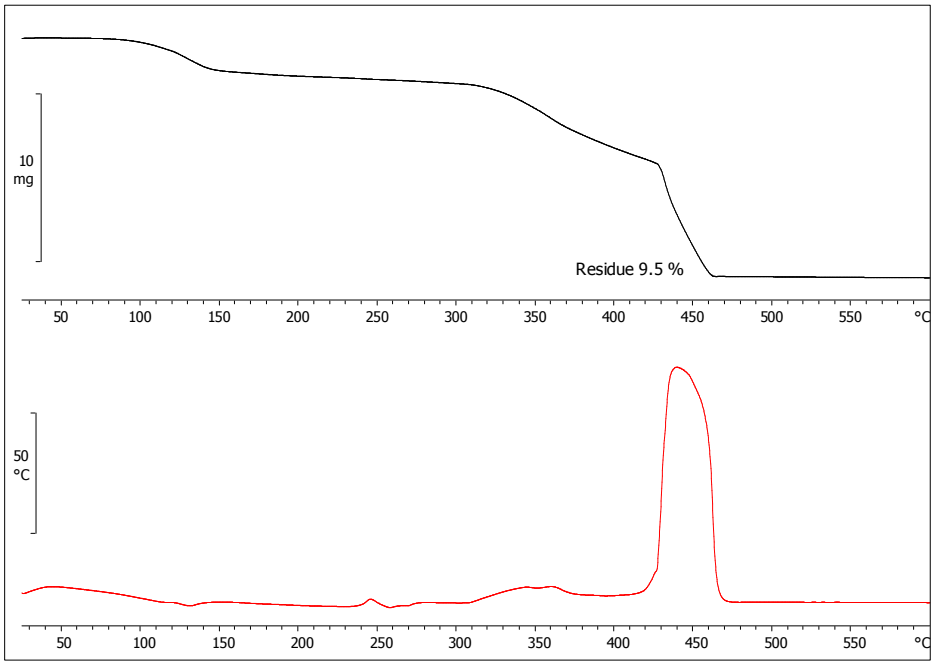


Figure S18. TG (black) and DTA (red) curves for the product of grinding of Co(II) acetate and compound **1**, i.e. the acetic acid solvate of compound **3**.

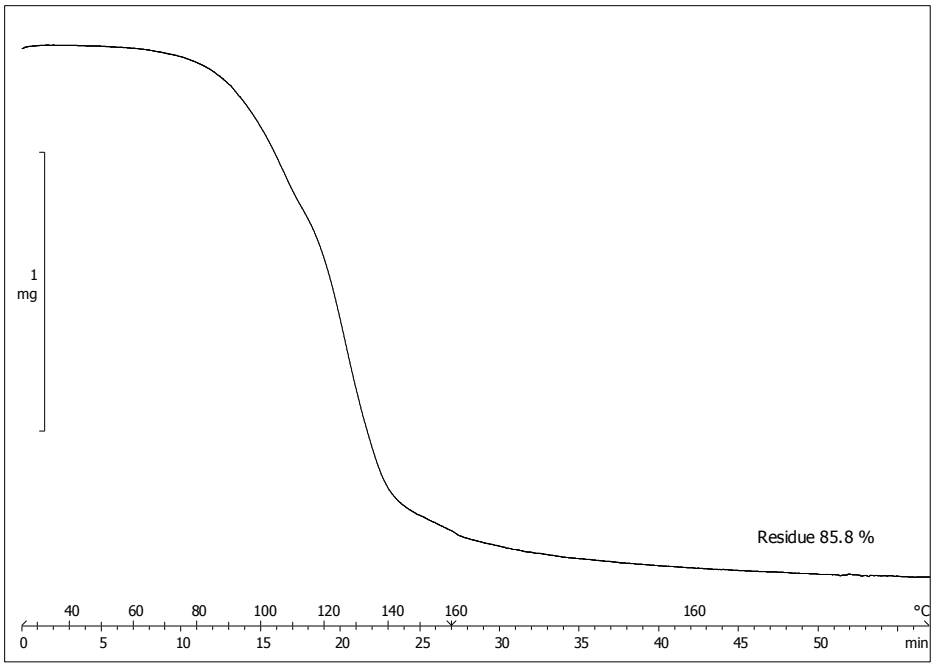


Figure S19. TG curve of isothermal experiment at 160 °C for the product of grinding of Co(II) acetate and compound **1**, i.e. the acetic acid solvate of compound **3**.

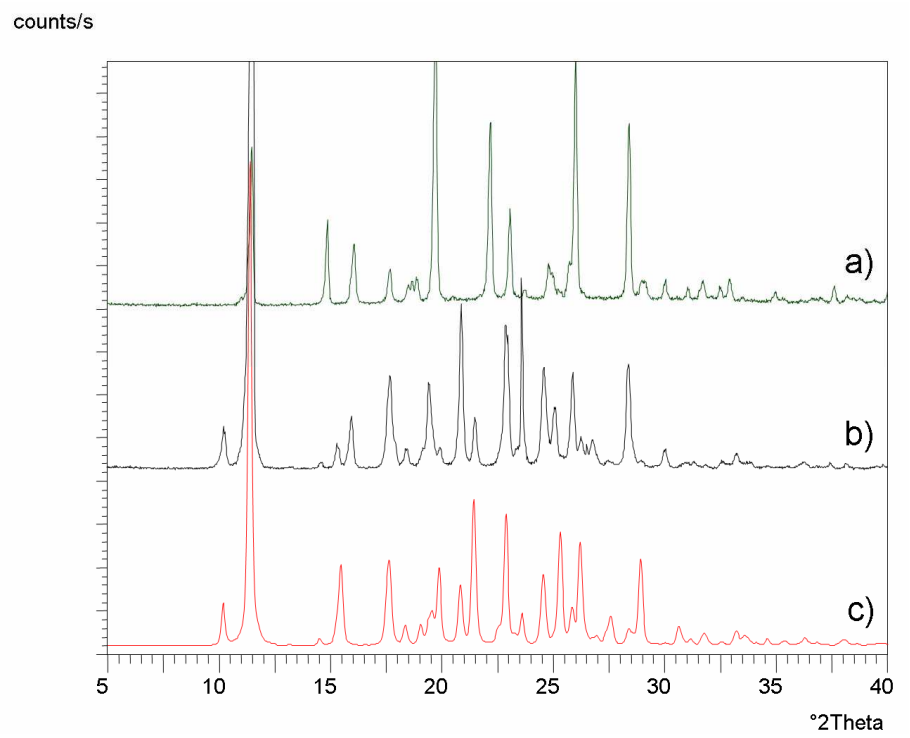


Figure S20. PXRD patterns of: a) pure 2-hydroxy-1-naphtaldehyde, b) compound **1** and c) simulated pattern for compound **1**.

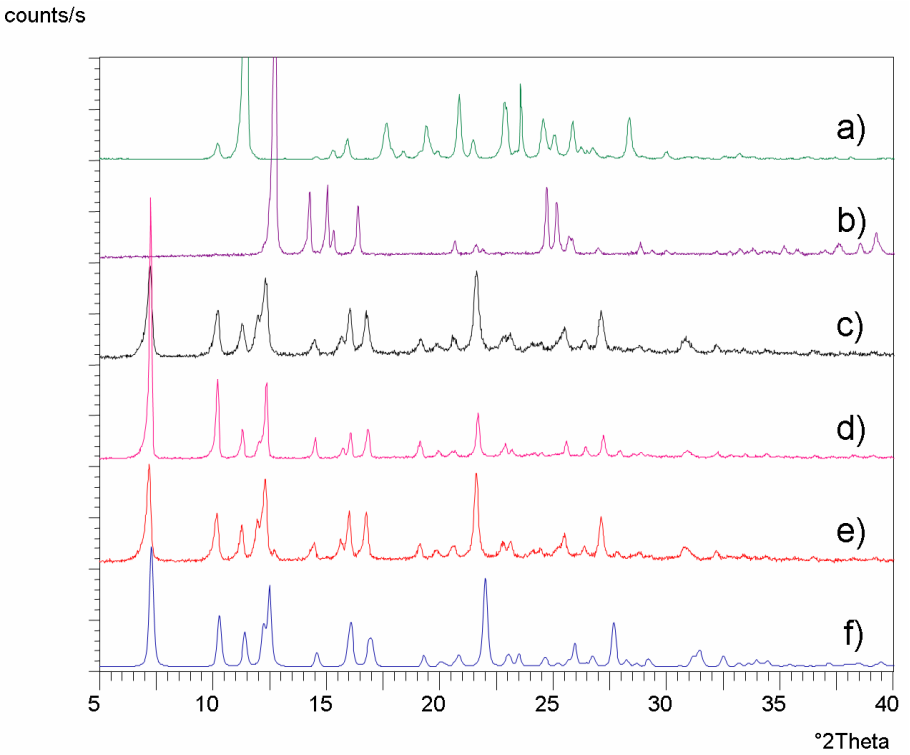


Figure S21. PXRD patterns for mechanochemical and solution-based experiments involving copper(II) acetate monohydrate and the compound **1**: a) compound **1**, b) copper acetate monohydrate, c) compound **2** obtained by grinding of Cu(II) acetate monohydrate and compound **1** in the presence of 30 μL triethylamine, d) compound **2** obtained by solution-based method, e) compound **2** after three days standing in acetic acid vapour and f) simulated pattern for compound **2**.

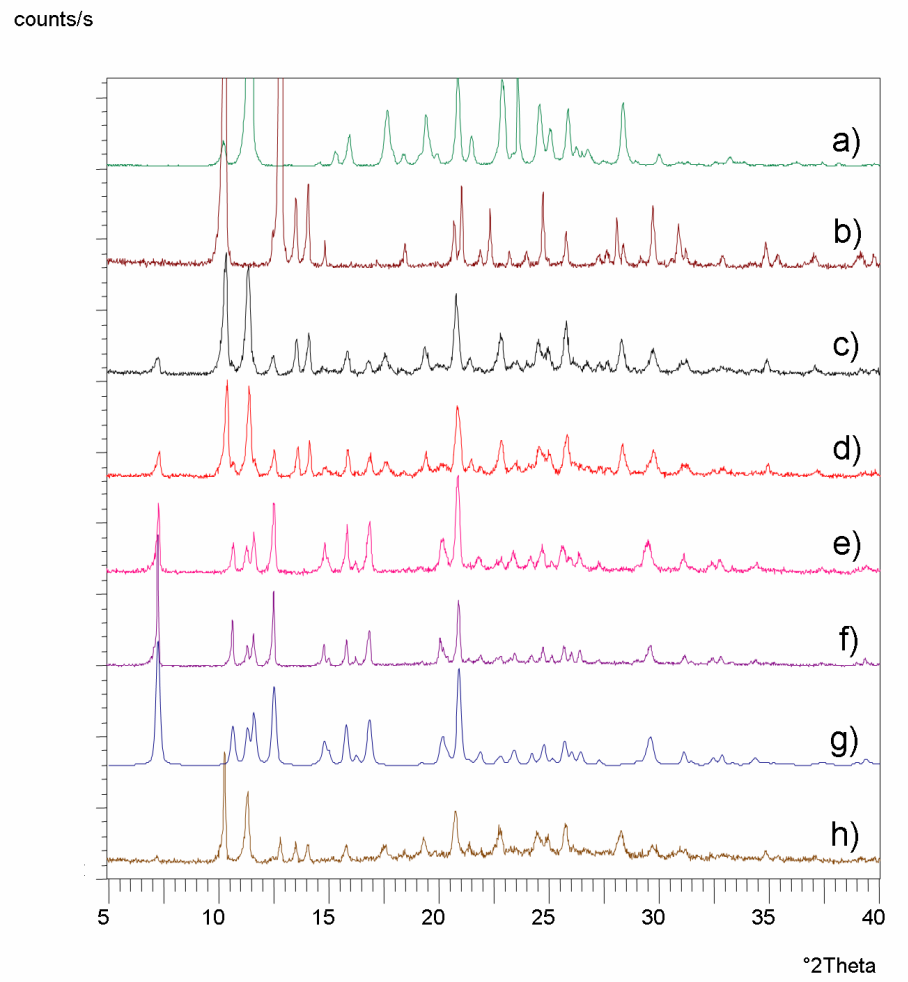
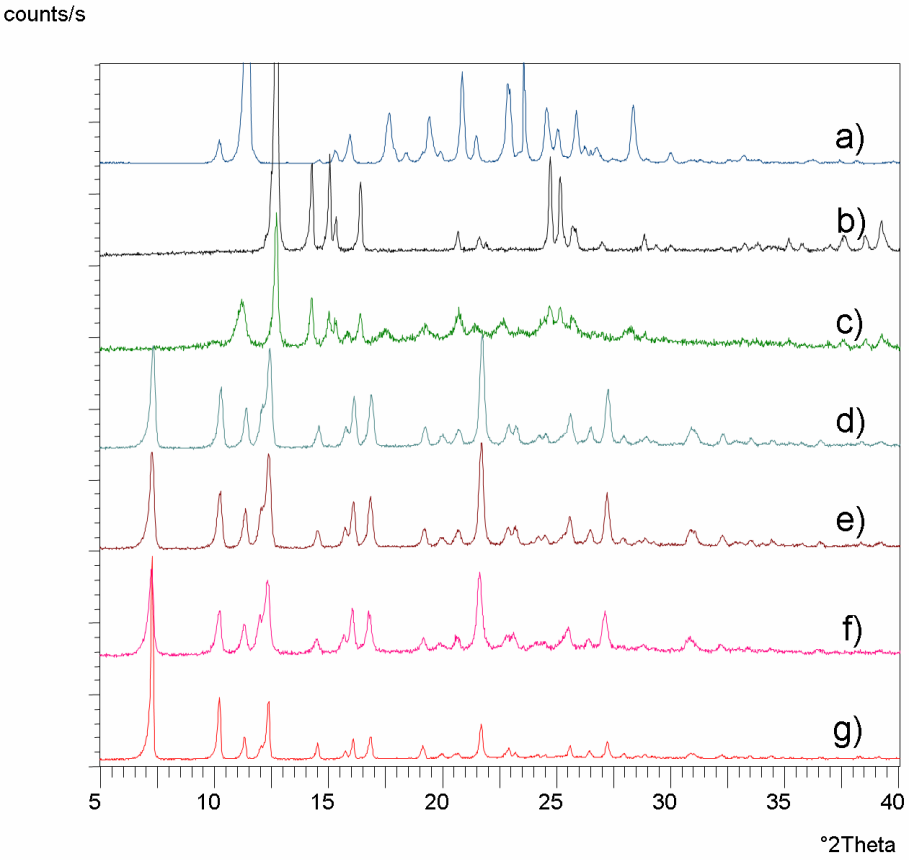


Figure S22. PXRD patterns for mechanochemical and solution-based experiments involving cobalt(II) acetate tetrahydrate and compound **1**: a) compound **1**, b) cobalt(II) acetate tetrahydrate, c) LAG product obtained by grinding of Co(II) acetate tetrahydrate and compound **1** in the presence of 40 μL triethylamine (the acetic acid solvate of compound **3** is a major product and compound **3** is in traces), d) LAG product obtained by grinding of Co(II) acetate tetrahydrate and compound **1** in the presence of 50 μL triethylamine (the acetic acid solvate of compound **3** is a major product and compound **3** is in traces), e) compound **3** obtained by annealing of LAG product, f) compound **3** obtained by solution-based method, g) simulated pattern for compound **3** and h) compound **3** after three days standing in acetic acid vapour.



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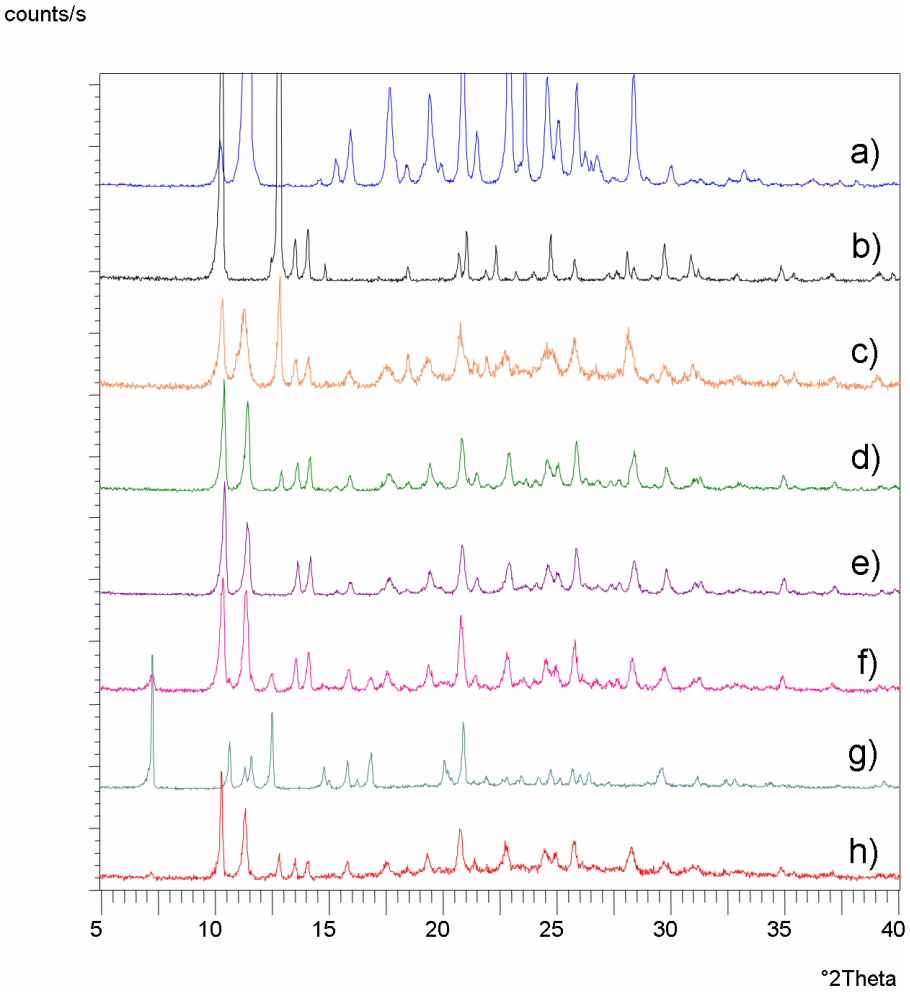

Figure S24. PXRD patterns for mechanochemical experiments involving cobalt(II) acetate tetrahydrate and **1**: a) compound **1,** b) cobalt(II) acetate tetrahydrate, c) product obtained by neat grinding, d) LAG product obtained by grinding in the presence of 30 μL acetonitrile (acetic acid solvate of compound **3** is a major product and cobalt(II) acetate tetrahydrate is in traces), e) LAG product obtained by grinding in the presence of 30 μL methanol (acetic acid solvate of compound **3**), f) LAG product obtained by grinding in the presence of 30 μL triethylamine (acetic acid solvate of compound **3** is a major product and compound **3** is in traces), g) compound **3** obtained by solution-based method and h) compound **3** after three days standing in acetic acid vapour.