Electronic Supplementary Material (ESI) for New Journal of Chemistry.


# Supporting information

## Effect of solvent in the hydrogenation of acetophenone catalyzed by Pd/S-DVB.

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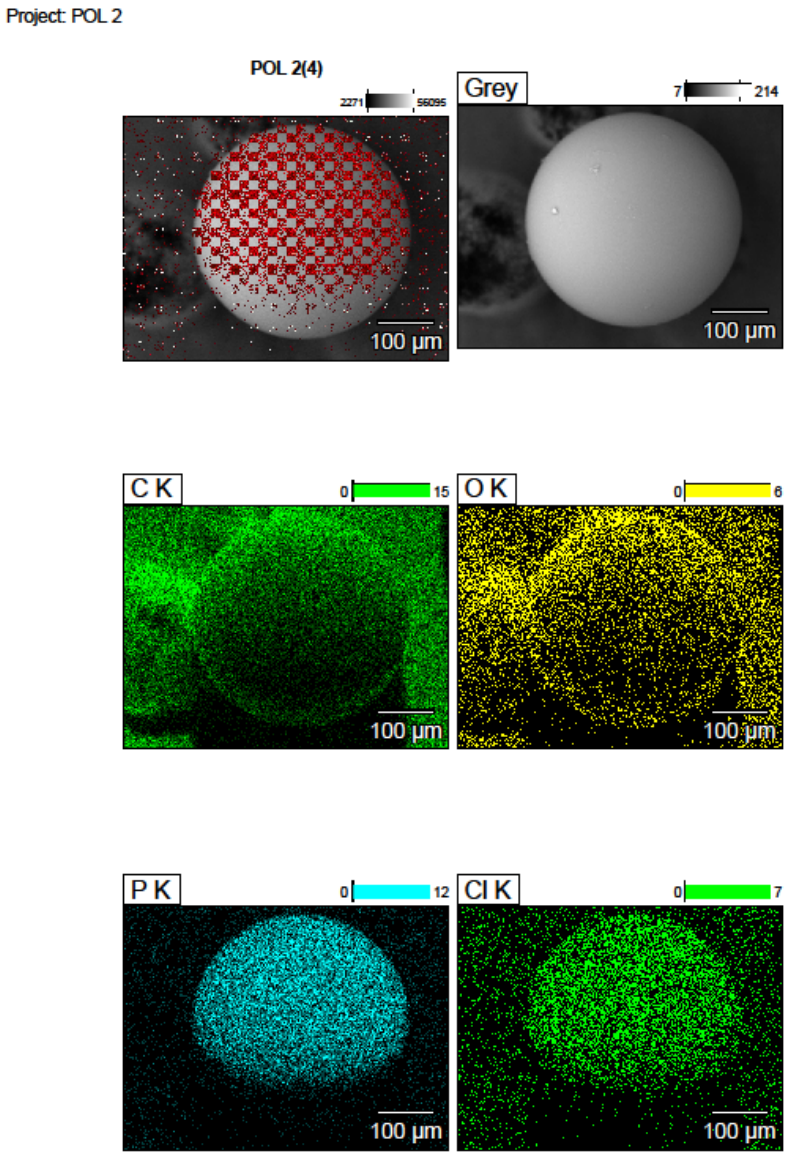



Data Type: Counts Mag: 210 Acc. Voltage: 30.0 kV

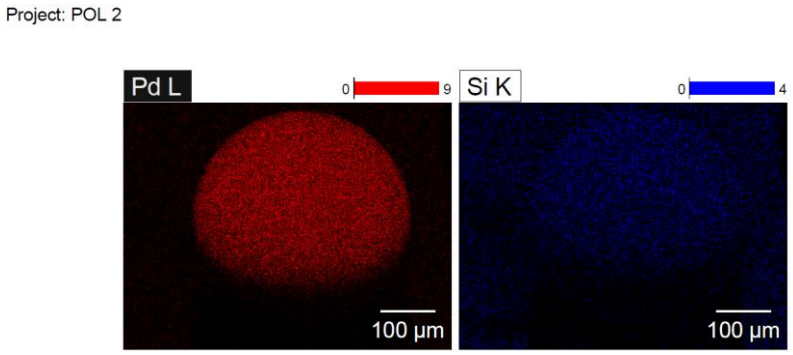



*Fig. S1 Elemental mapping (SEM) for Pd/S-DVB catalyst.*

| **Reaction time** | **0** | **15** | **30** | **45** | **60** | **75** | **90** | **105** | **120** | **135** | **150** | **165** | **180** | **195** | **210** | **225** | **240** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Pressure [bar]** | 11.30 | 10.90 | 10.40 | 9.90 | 9.80 | 9.70 | 9.60 | 9.60 | 9.60 | 9.50 | 9.50 | 9.50 | 9.50 | 9.50 | 9.50 | 9.50 | 9.50 |

*Tab. S1. Pressure changes in time for hydrogenation of APh in MeOH*

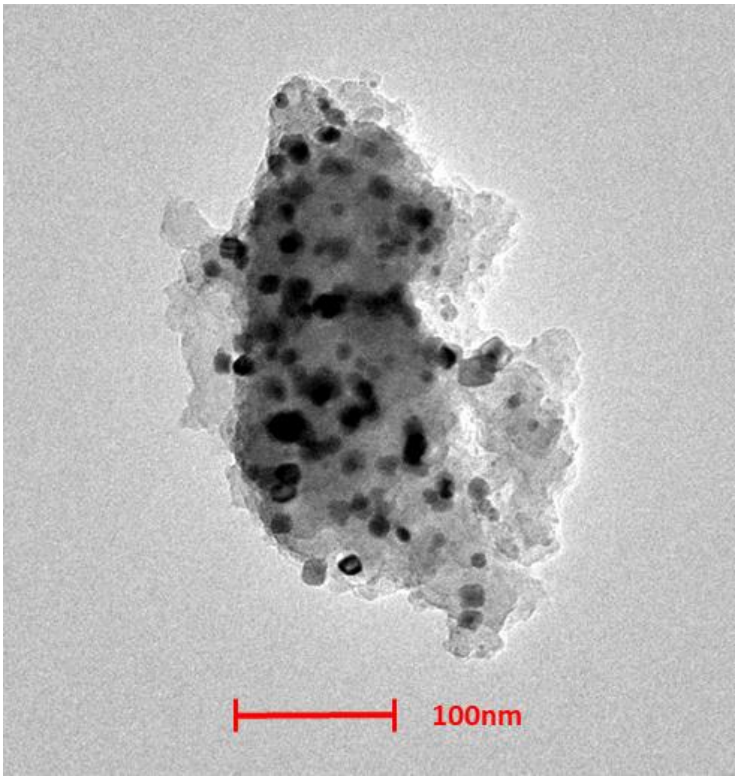
| **Reaction time** | **0** | **15** | **30** | **45** | **60** | **75** | **90** | **105** | **120** | **135** | **150** | **165** | **180** | **195** | **210** | **225** | **240** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Pressure [bar]** | 11.10 | 10.70 | 10.20 | 9.90 | 9.20 | 9.00 | 8.90 | 8.80 | 8.75 | 8.70 | 8.70 | 8.70 | 8.60 | 8.60 | 8.60 | 8.50 | 8.50 |

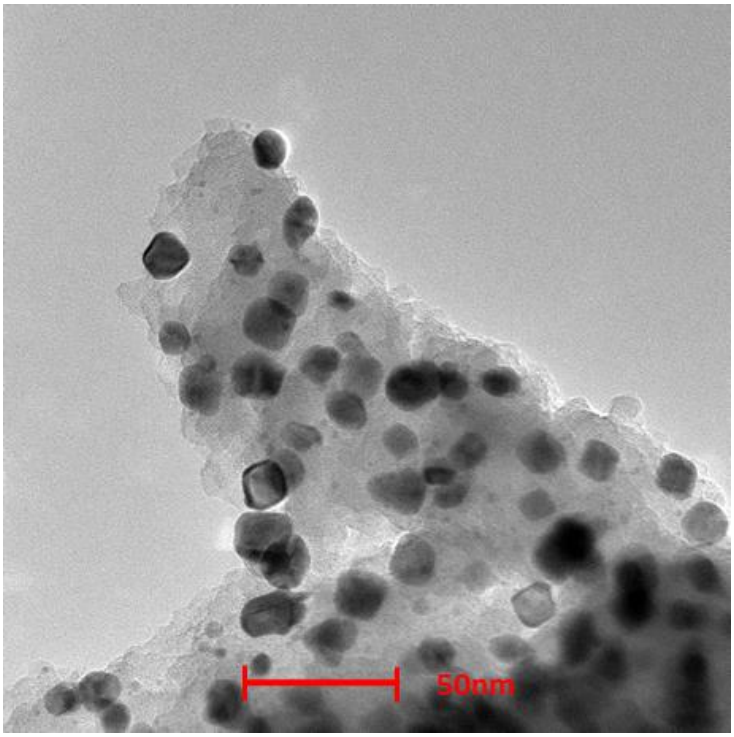
*Tab. S2. Pressure changes in time for hydrogenation of APh in BuOH*

| **R. time** | **0** | **15** | **30** | **45** | **60** | **75** | **90** | **105** | **120** | **$x_i$ $H_2O$** |
|---|---|---|---|---|---|---|---|---|---|---|
| **P. [bar]** | 11.30 | 10.60 | 9.90 | 9.50 | 9.20 | 9.00 | 8.90 | 8.70 | 8.70 | **0.00** |
| **P. [bar]** | 11.40 | 11.30 | 11.00 | 10.70 | 10.60 | 10.40 | 10.30 | 10.20 | 10.10 | **0.28** |
| **P. [bar]** | 11.90 | 11.60 | 11.60 | 11.50 | 11.40 | 11.20 | 11.10 | 11.00 | 10.90 | **0.46** |
| **P. [bar]** | 12.80 | 12.70 | 12.60 | 12.60 | 12.50 | 12.50 | 12.40 | 12.40 | 12.30 | **0.81** |
| **P. [bar]** | 11.16 | 11.05 | 10.95 | 10.85 | 10.80 | 10.68 | 10.60 | 10.30 | 10.27 | **1.00** |

| **R. time** | **135** | **150** | **165** | **180** | **195** | **210** | **225** | **240** | **$x_i$ $H_2O$** |
|---|---|---|---|---|---|---|---|---|---|
| **P. [bar]** | 8.60 | 8.60 | 8.50 | 8.50 | 8.50 | 8.50 | 8.50 | 8.40 | **0.00** |
| **P. [bar]** | 10.00 | 9.90 | 9.80 | 9.80 | 9.70 | 9.70 | 9.70 | 9.70 | **0.28** |
| **P. [bar]** | 10.80 | 10.70 | 10.60 | 10.50 | 10.40 | 10.30 | 10.20 | 10.20 | **0.46** |
| **P. [bar]** | 12.30 | 12.20 | 12.20 | 12.10 | 12.10 | 12.10 | 12.10 | 12.10 | **0.81** |
| **P. [bar]** | 10.17 | 10.05 | 9.95 | 9.85 | 9.76 | 9.71 | 9.67 | 9.54 | **1.00** |

*Tab. S3. Pressure changes in time for hydrogenation of APh in i-PrOH*


100nm


50nm

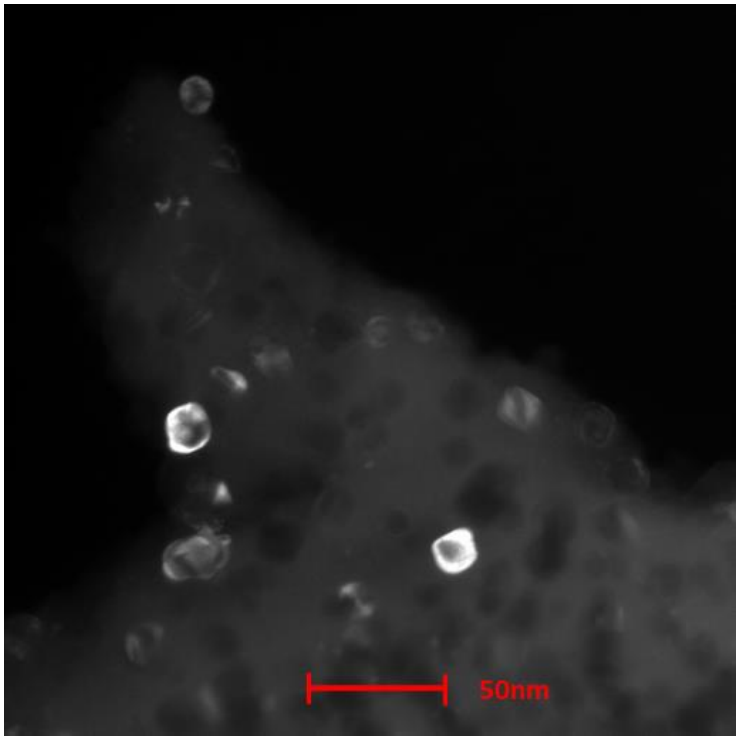



*Fig. S2 TEM micrographs of Pd/S-DVB after catalytic reaction*

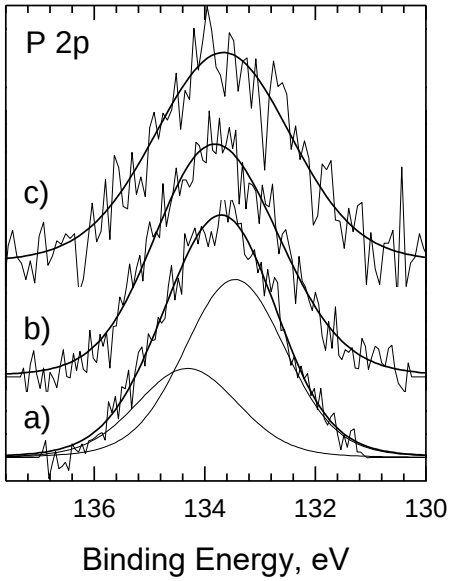



*Fig. S3 XPS P 2p core level spectra for sample before reaction in 'as received' form a), for sample before reaction after soft cleaning 'in situ' b) for sample after reaction c)*

## GC-MS data

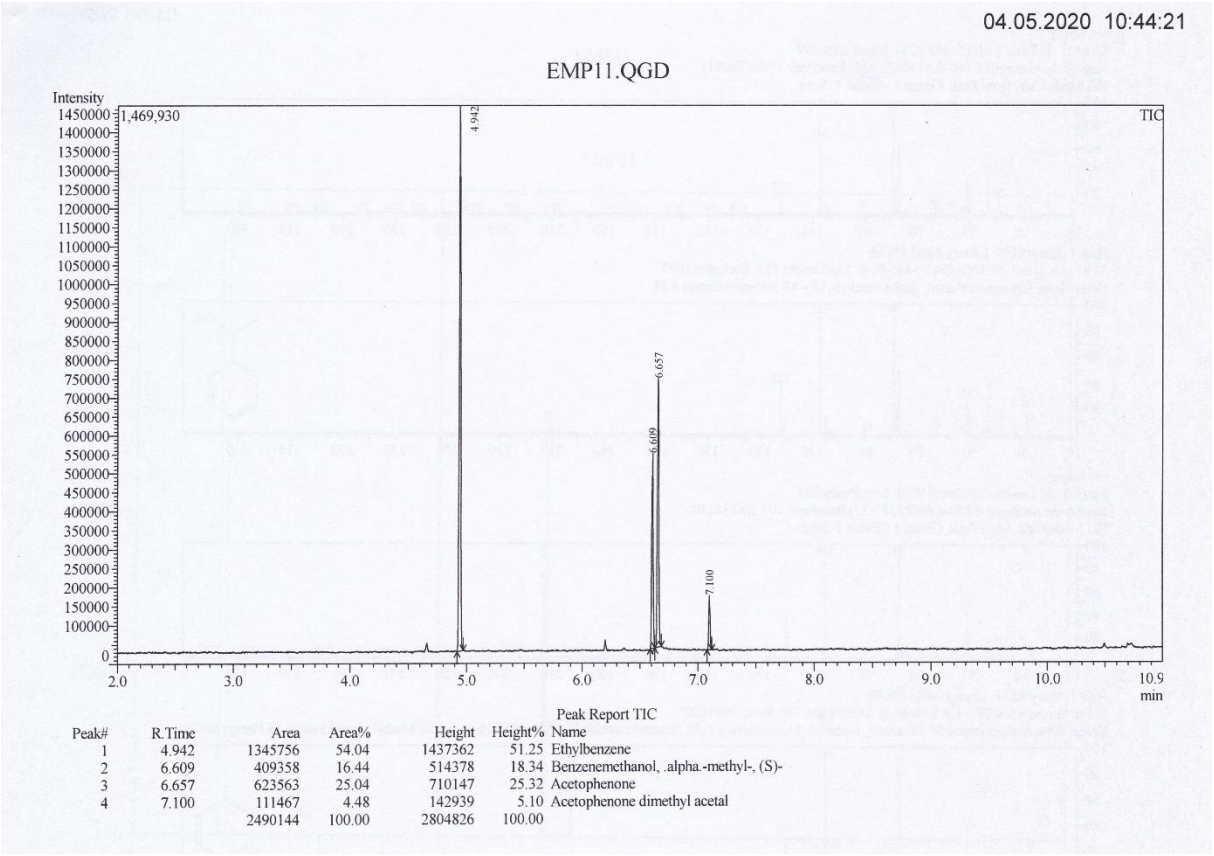



Fig. S4 GC-MS after APh hydrogenation (10 bar, 80°C, 4h)

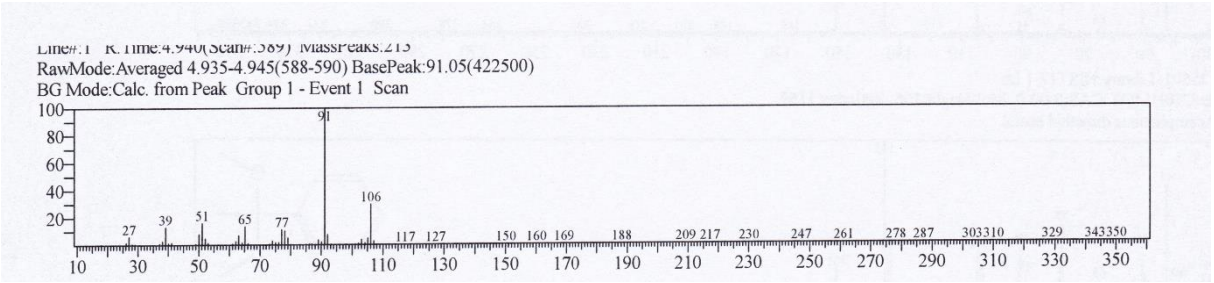



Fig. S5 MS of ethylbenzene

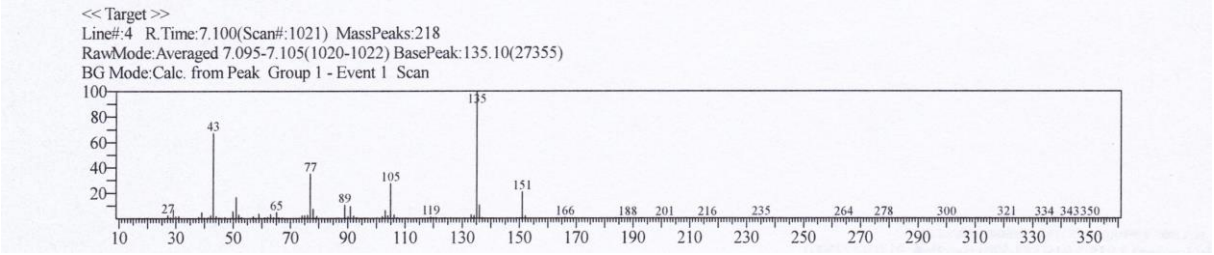



Fig. S6 MS of ketal

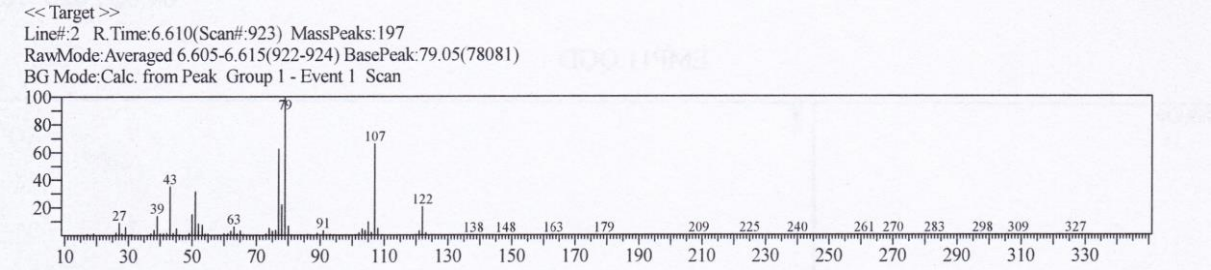



Fig. S7 MS of 1-phenylethanol

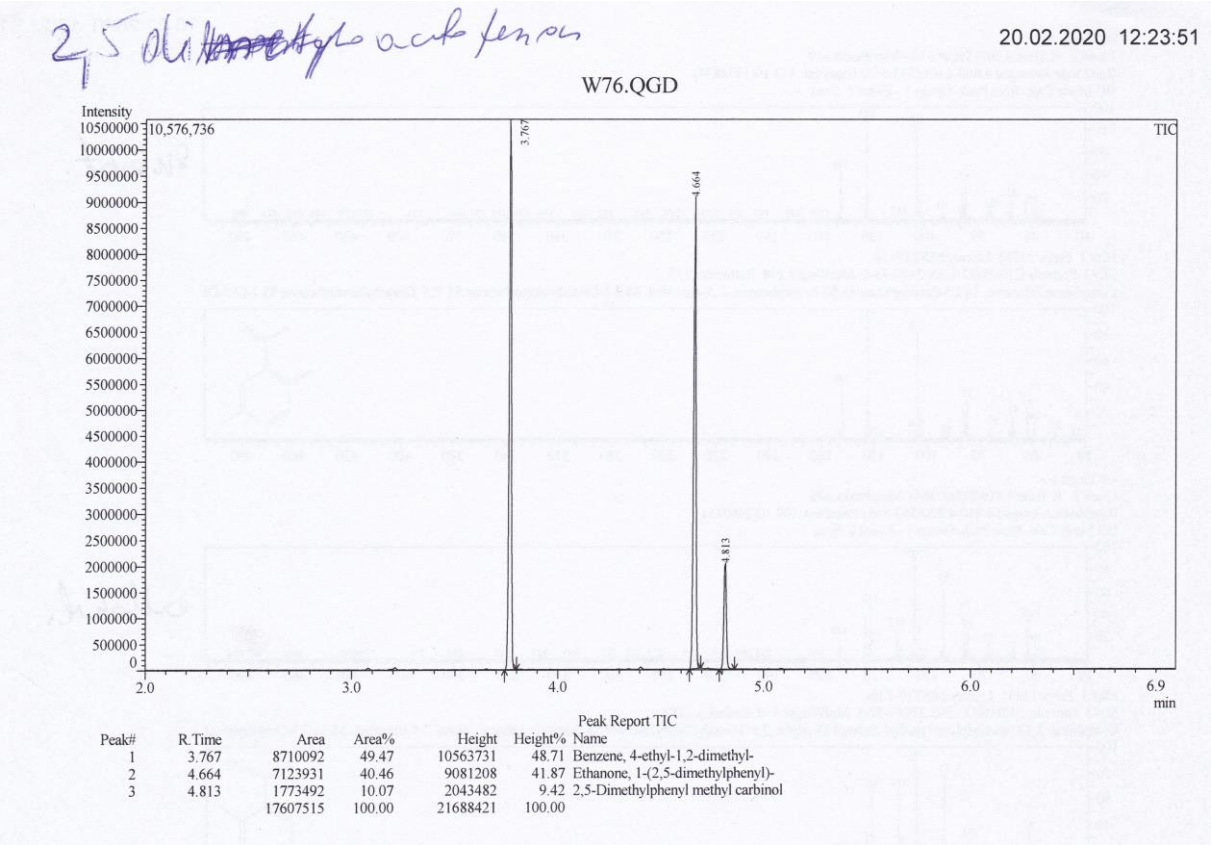



Fig. S8 GC-MS after 2,5-dimethylacetophenone hydrogenation (10 bar, 80°C, 4h, 3ml MeOH)

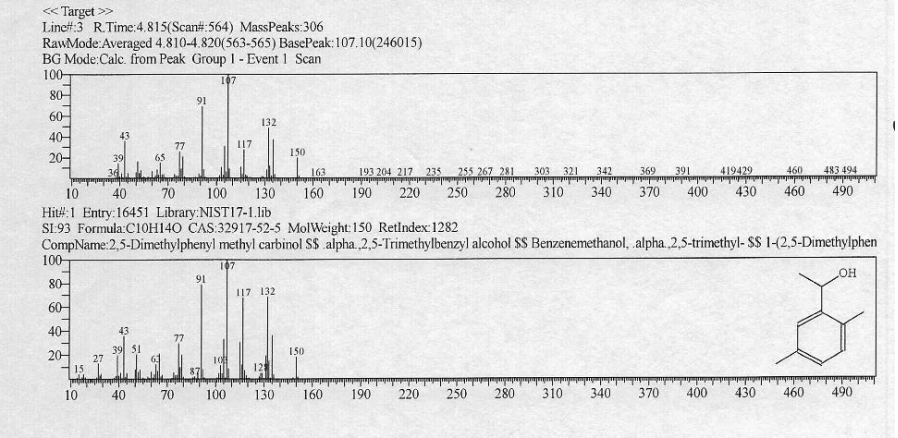


Fig. S9. MS of 1-(2,5-dimethylphenyl)ethan-1-ol

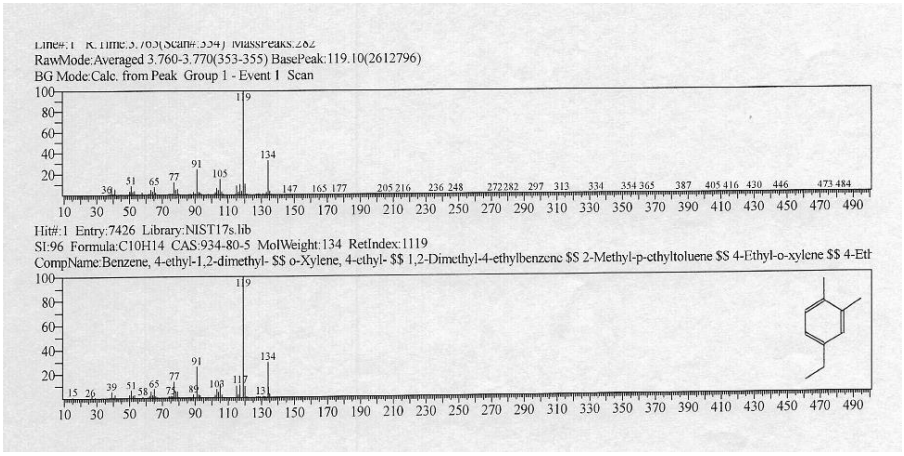



Fig. S10. MS of 1-ethyl-2,5-dimethylbenzene

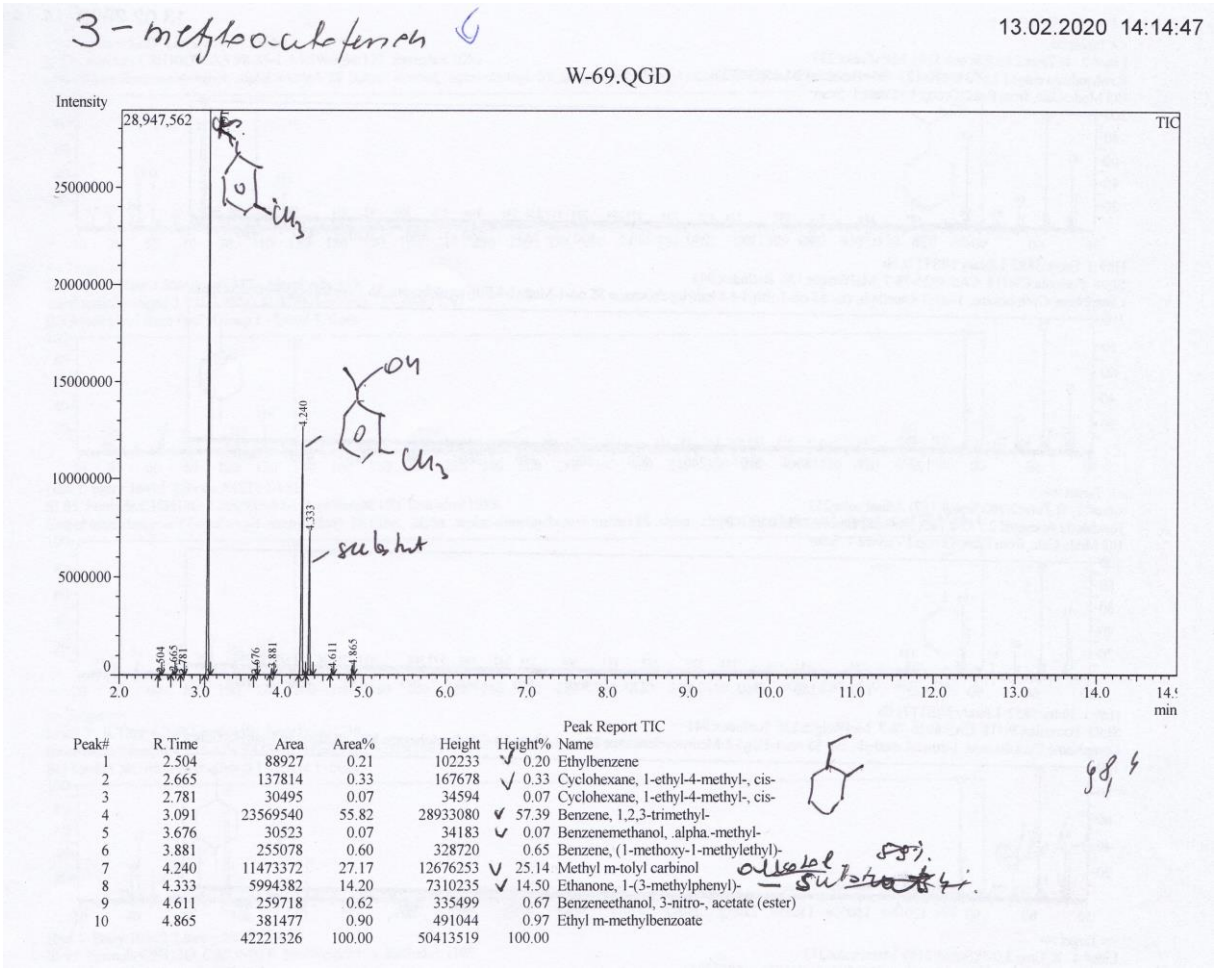



Fig. S11 GC-MS after 3-methylacetophenone hydrogenation (10 bar, 80°C, 4h, 3ml MeOH)

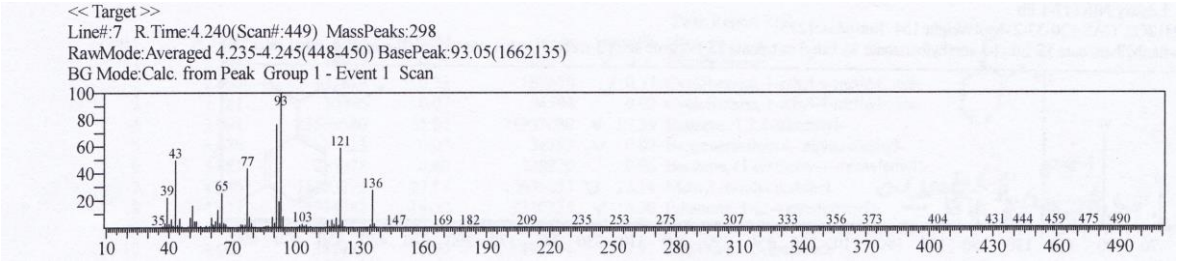



Fig. S12 MS of 1-(3-tolyl)ethan-1-ol

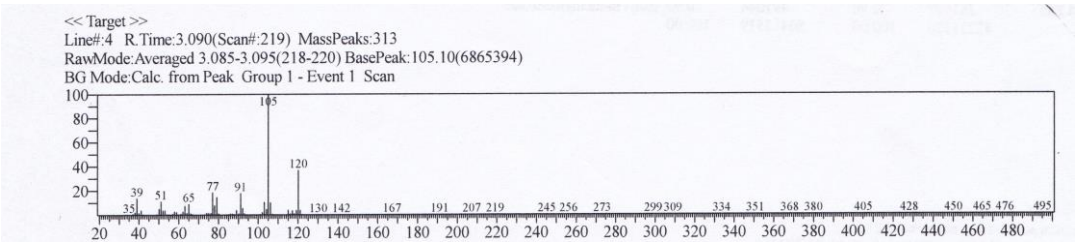



Fig. S13 MS of 1-ethyl-3-methylbenzene

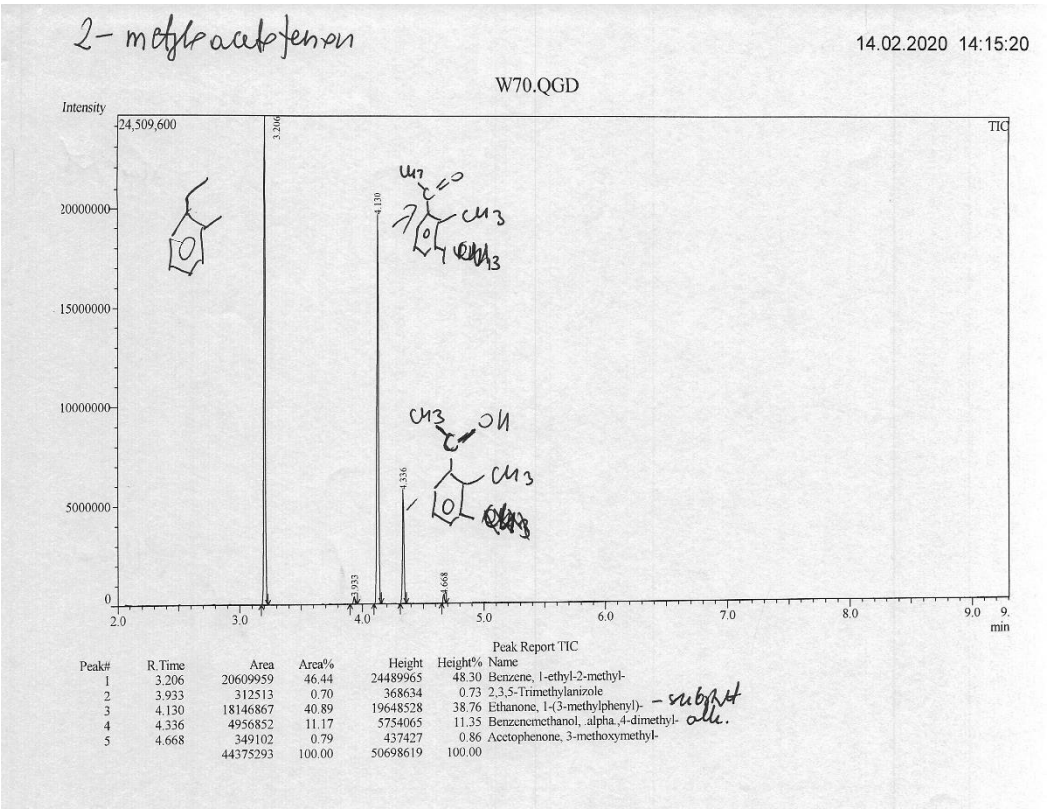



Fig. S14 GC-MS after 2-methylacetophenone hydrogenation (10 bar, 80°C, 4h)

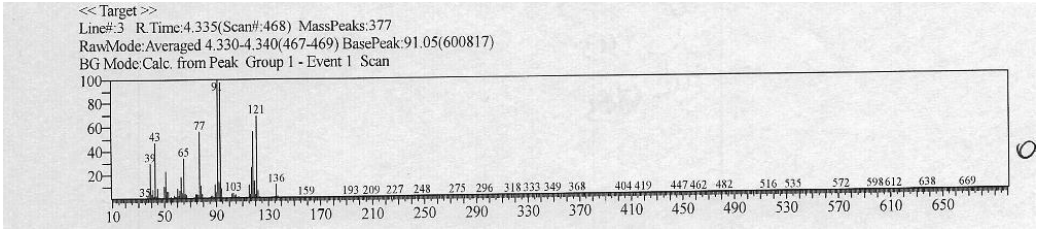



Fig. S15. MS of 1-(2-tolyl)ethan-1-ol

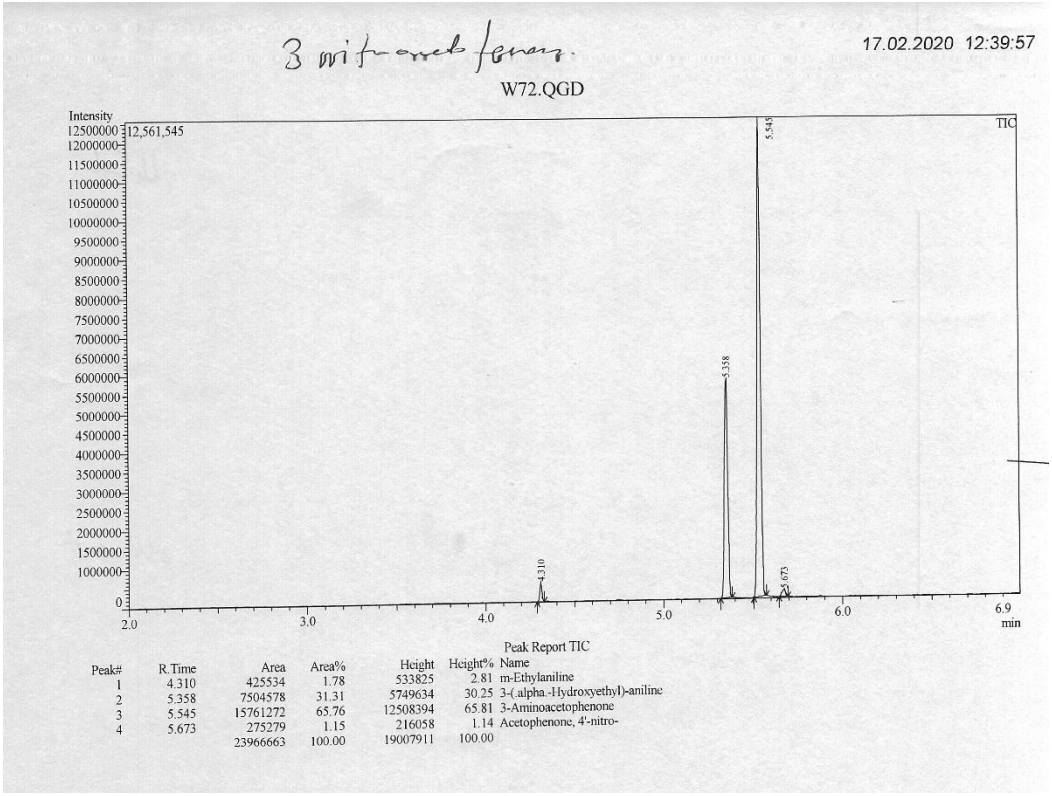



Fig. S16.GC-MS 3-aminoacetophenone hydrogenation (10 bar, 80°C, 4h)

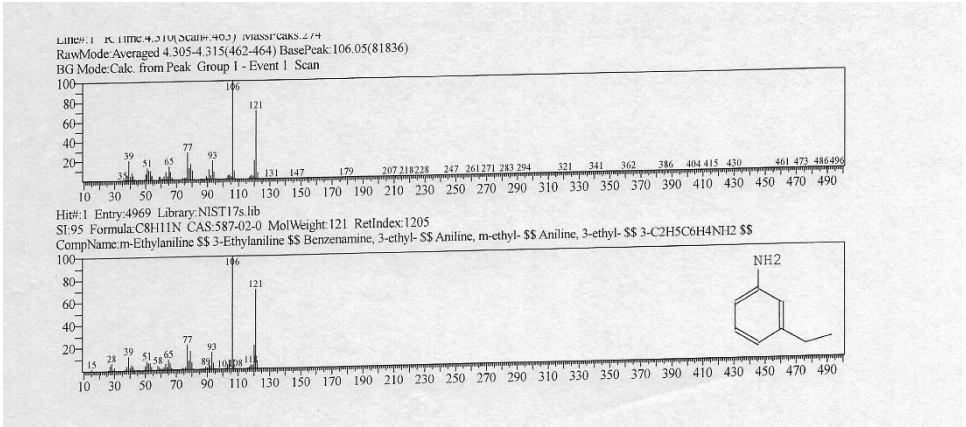



Fig. S17. MS of 3-ethylaniline

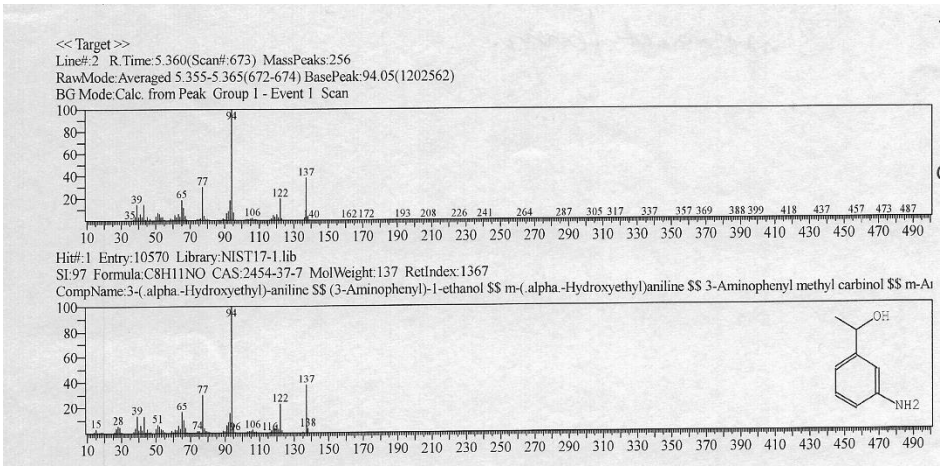



Fig. S18. MS of 1-(3-aminophenyl)ethan-1-ol