

# Green dynamic kinetic resolution exemplified on stereoselective acylation of secondary alcohols

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## Supporting information

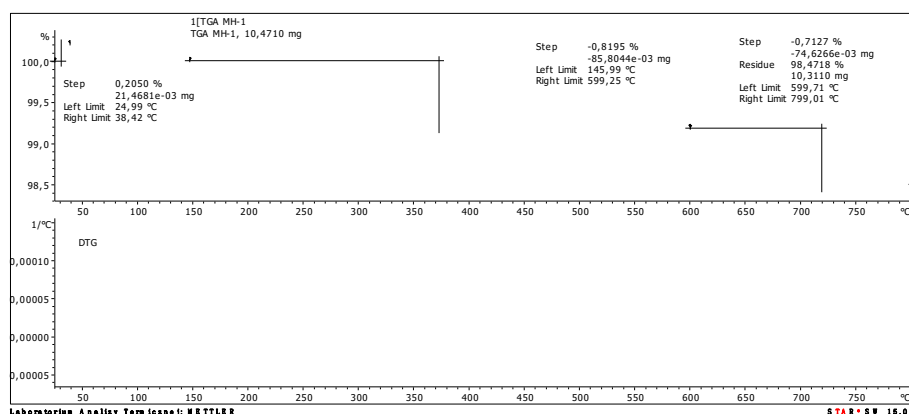


Figure S1: Thermogravimetric analysis of MWCNTs.

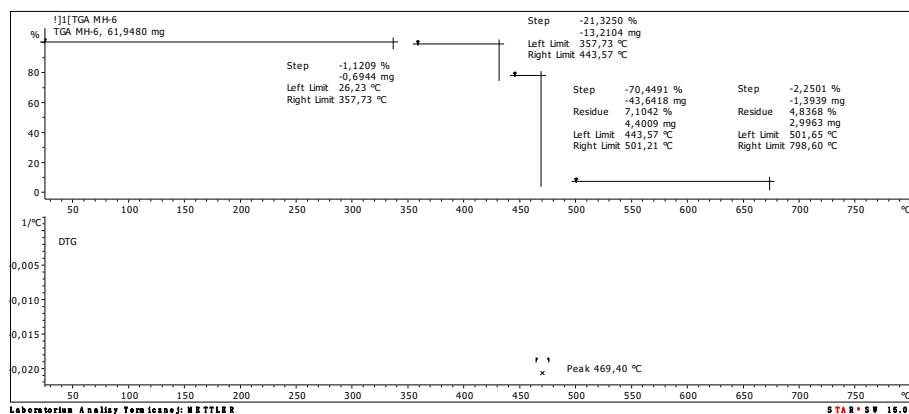


Figure S2: Thermogravimetric analysis of [BMIM][NTf<sub>2</sub>].

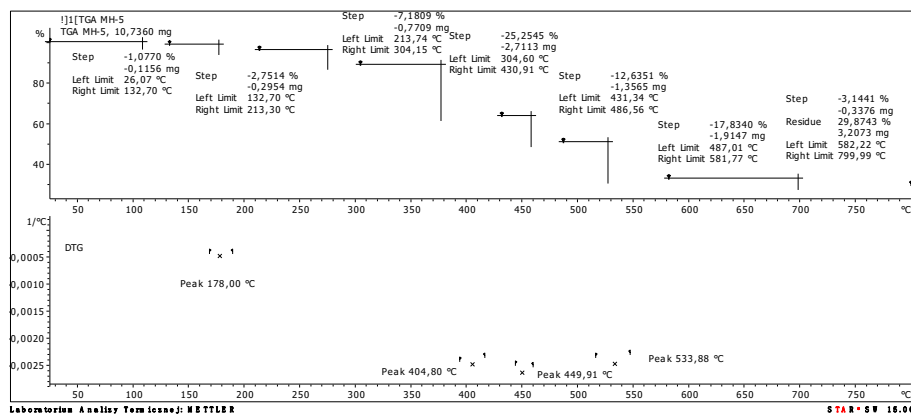


Figure S3: Thermogravimetric analysis of ruthenium complex 1.

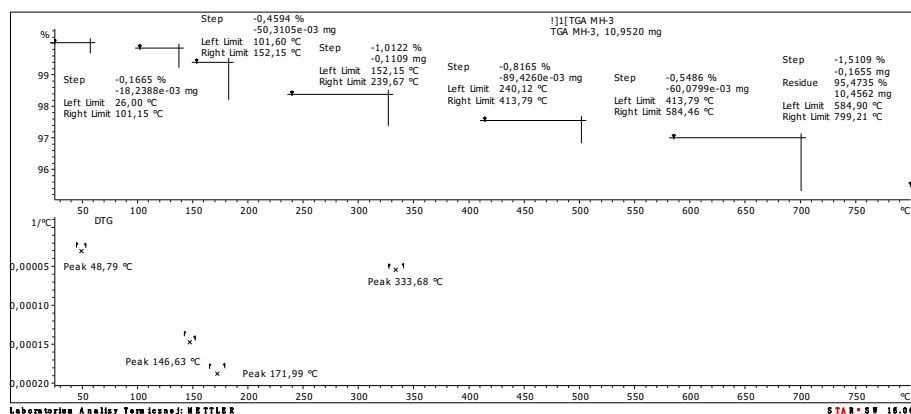


Figure S4: Thermogravimetric analysis of Ru(1)-MWCNT.

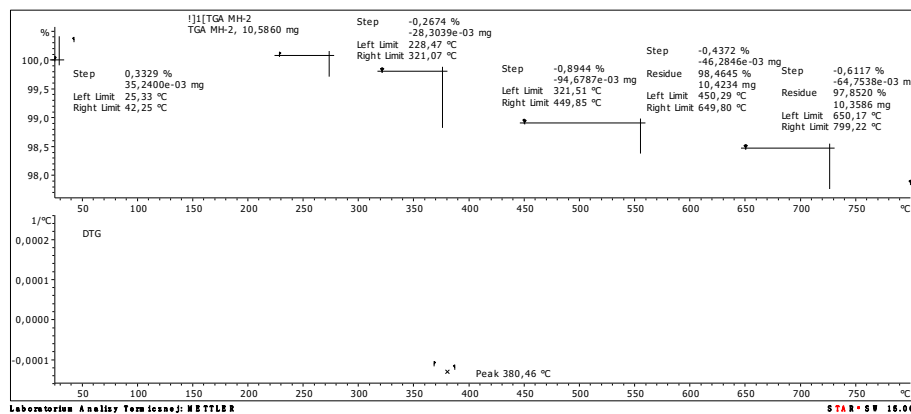


Figure S5: Thermogravimetric analysis of IL-MWCNTs.

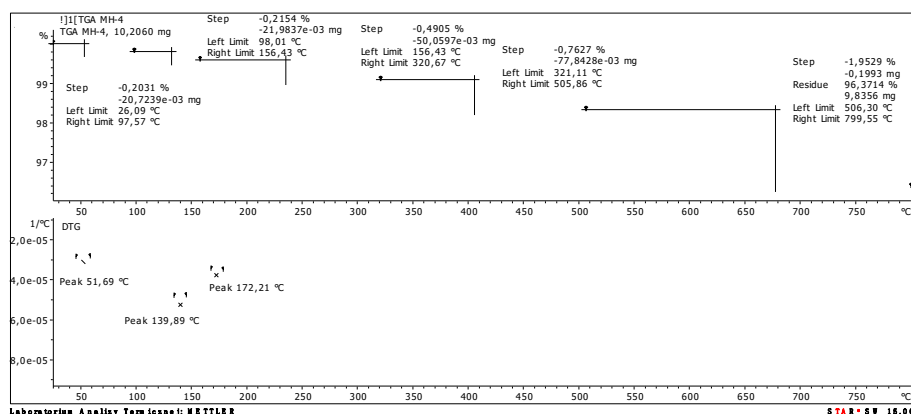
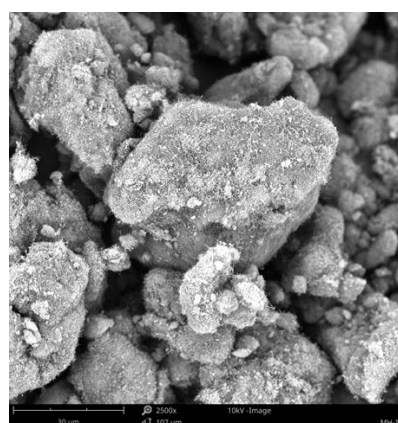
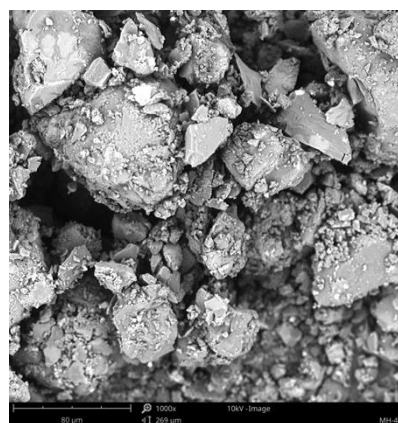


Figure S6: Thermogravimetric analysis of Ru(1)-IL-MWCNT.



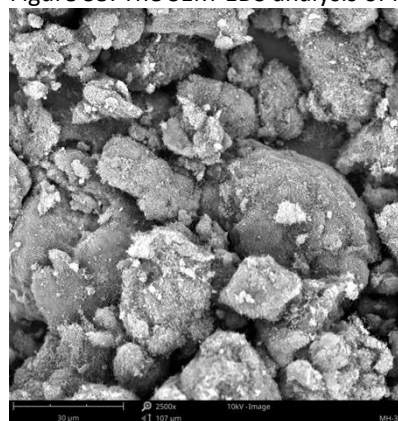
| Element Number | Element Symbol | Element Name | Atomic Conc. | Weight Conc. |
|----------------|----------------|--------------|--------------|--------------|
| 6              | C              | Carbon       | 96.36        | 95.20        |
| 8              | O              | Oxygen       | 3.64         | 4.80         |

Figure S7: The SEM-EDS analysis of MWCNTs.



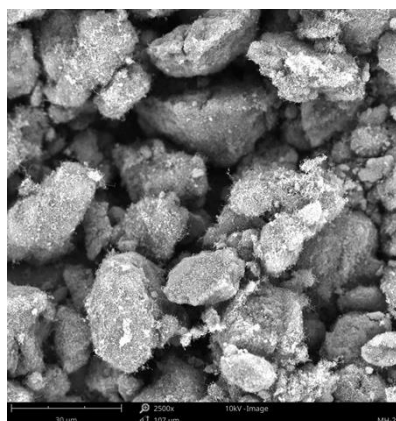
| Element Number | Element Symbol | Element Name | Atomic Conc. | Weight Conc. |
|----------------|----------------|--------------|--------------|--------------|
| 6              | C              | Carbon       | 86.57        | 71.72        |
| 8              | O              | Oxygen       | 9.53         | 10.52        |
| 17             | Cl             | Chlorine     | 2.07         | 5.07         |
| 44             | Ru             | Ruthenium    | 1.82         | 12.69        |

Figure S8: The SEM-EDS analysis of Ru-complex.



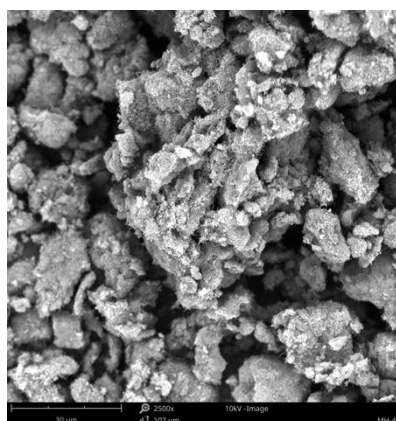
| Element Number | Element Symbol | Element Name | Atomic Conc. | Weight Conc. |
|----------------|----------------|--------------|--------------|--------------|
| 6              | C              | Carbon       | 94.29        | 86.05        |
| 8              | O              | Oxygen       | 4.63         | 5.62         |
| 44             | Ru             | Ruthenium    | 1.08         | 8.32         |

Figure S9: The SEM-EDS analysis of Ru(1)-MWCNT.



| Element Number | Element Symbol | Element Name | Atomic Conc. | Weight Conc. |
|----------------|----------------|--------------|--------------|--------------|
| 6              | C              | Carbon       | 86.67        | 83.82        |
| 7              | N              | Nitrogen     | 8.74         | 9.85         |
| 8              | O              | Oxygen       | 3.87         | 4.99         |
| 9              | F              | Fluorine     | 0.49         | 0.75         |
| 16             | S              | Sulfur       | 0.23         | 0.58         |

Figure S10: The SEM-EDS analysis of IL-MWCNTs.



| Element Number | Element Symbol | Element Name | Atomic Conc. | Weight Conc. |
|----------------|----------------|--------------|--------------|--------------|
| 6              | C              | Carbon       | 93.20        | 81.19        |
| 7              | N              | Nitrogen     | 3.44         | 3.49         |
| 8              | O              | Oxygen       | 2.30         | 2.67         |
| 79             | Au             | Gold         | 0.85         | 12.18        |
| 9              | F              | Fluorine     | 0.15         | 0.20         |
| 44             | Ru             | Ruthenium    | 0.03         | 0.21         |
| 16             | S              | Sulfur       | 0.02         | 0.06         |

Figure S11: The SEM-EDS analysis of Ru(1)-IL-MWCNT.

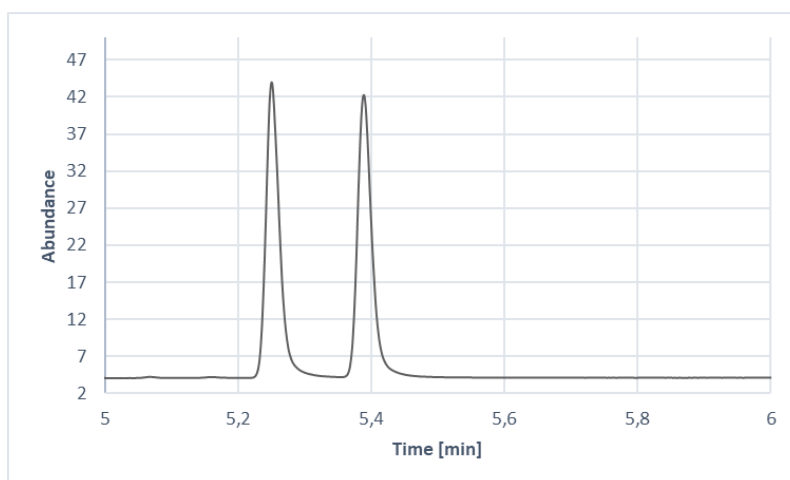


Figure S12: GC chromatogram of racemic 1-phenylethanol (alcohol 1 racemate: 1-*S*-phenylethanol and 1-*R*-phenylethanol).

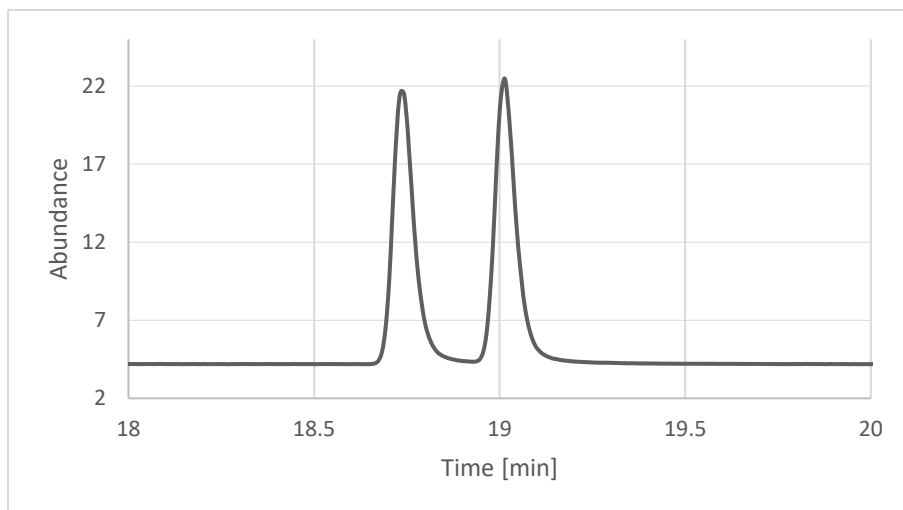


Figure S13: GC chromatogram of racemic 1-(1-naphthyl)ethanol (alcohol 2 racemate: 1-*S*-(1-naphthyl)ethanol and 1-*R*-(1-naphthyl)ethanol).

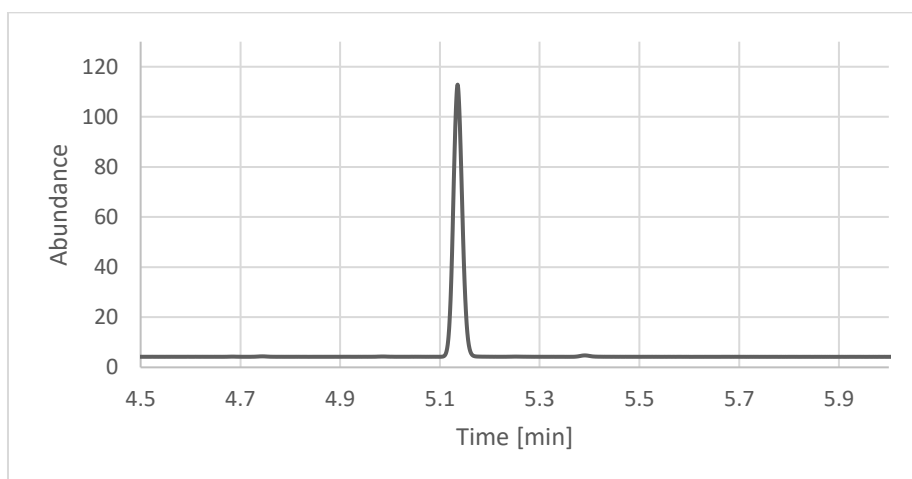


Figure S14: GC chromatogram of enantiomerically pure ester of 1-*S*-phenylethanol.