

Figure S1. 5%Ru/HPS 100x magnitude SEM5%Ru/HPS SEM image at 100x magnitude.

Figure S2. 5%Ru/HPS 3000x magnitude SEM image at 3000x magnitude.

Figure S3. 5%Ru/HPS 5000x magnitude SEM image at 5000x magnitude.

Figure S4. 5%Ru/HPS 10000x magnitude SEM image at 10000x magnitude.

Figure S5. 3%Ru@0.1%Co/HPS 100x magnitude SEM image at 100x magnitude.

Figure S6. 3%Ru@0.1%Co/HPS 3000x magnitude SEM image at 3000x magnitude.,

Figure S7. 3%Ru@0.1%Co/HPS 5000x magnitude SEM image at 5000x magnitude.

Figure S8. 3%Ru@0.1%Co/HPS 10000x magnitude SEM image at 10000x magnitude.

Figure S9. 3%Ru@0.1%Cu/HPS 100x magnitude SEM image at 100x magnitude.

Figure S10. 3%Ru@0.1%Cu/HPS 3000x magnitude SEM image at 3000x magnitude.

Figure S11. 3%Ru@0.1%Cu/HPS 5000x magnitude SEM image at 5000x magnitude.

Figure S12. 3%Ru@0.1%Cu/HPS 10000x magnitude SEM image at 10000x magnitude.

Figure S13. 3%Ru@0.1%Ni/HPS 100x magnitude SEM image at 100x magnitude.

Figure S14. 3%Ru@0.1%Ni/HPS 3000x magnitude SEM image at 3000x magnitude.

Figure S15. 3%Ru@0.1%Ni/HPS 5000x magnitude SEM image at 5000x magnitude.

Figure S16. 3%Ru@0.1%Ni/HPS 10000x magnitude SEM image at 10000x magnitude.

Figure S17. FT-IR spectrum of canola oil (red) and canola FAME (black).

Figure S18. ^1H NMR spectrum of canola FAME in CDCl_3 .

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Table S1. List of identified compounds for the canola FAME GC-MS chromatogram.

Figure S20. Hydrogenated canola FAME GC–MS chromatogram.

Table S2. List of identified compounds for the hydrogenated canola FAME GC–MS chromatogram.

Figure S21. Hydroformylated canola FAME GC–MS chromatogram.

Table S3. List of identified compounds for the hydroformylated canola FAME GC-MS chromatogram.

Figure S22. Oxidized canola FAME GC–MS chromatogram.

Table S4. List of identified compounds for the oxidized canola FAME GC–MS chromatogram CG-MS.

Figure S23. Deoxygenated canola FAME GC–MSGC-MS chromatogram.

Table S5. List of identified compounds for the deoxygenated canola FAME GC–MS chromatogram CG-MS.

Doped ruthenium/hyperscrosslinked polystyrene (HPS) catalysts in the modification of fatty acid methyl esters – Support Information

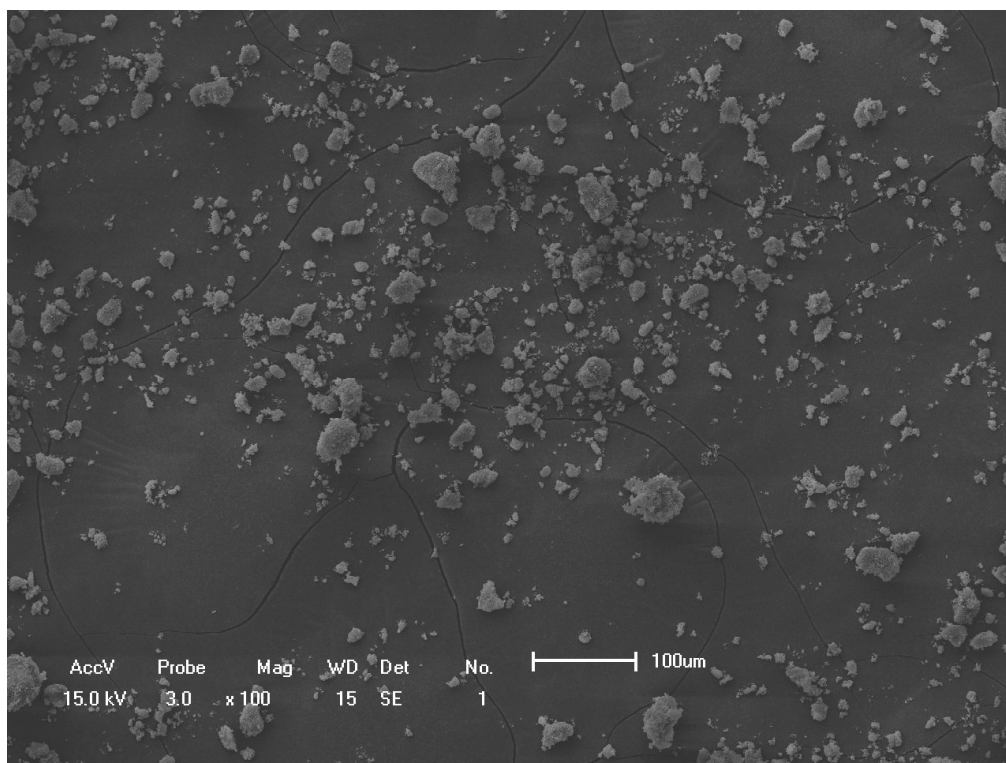


Figure S1. 5%Ru/HPS 100x magnitude SEM.

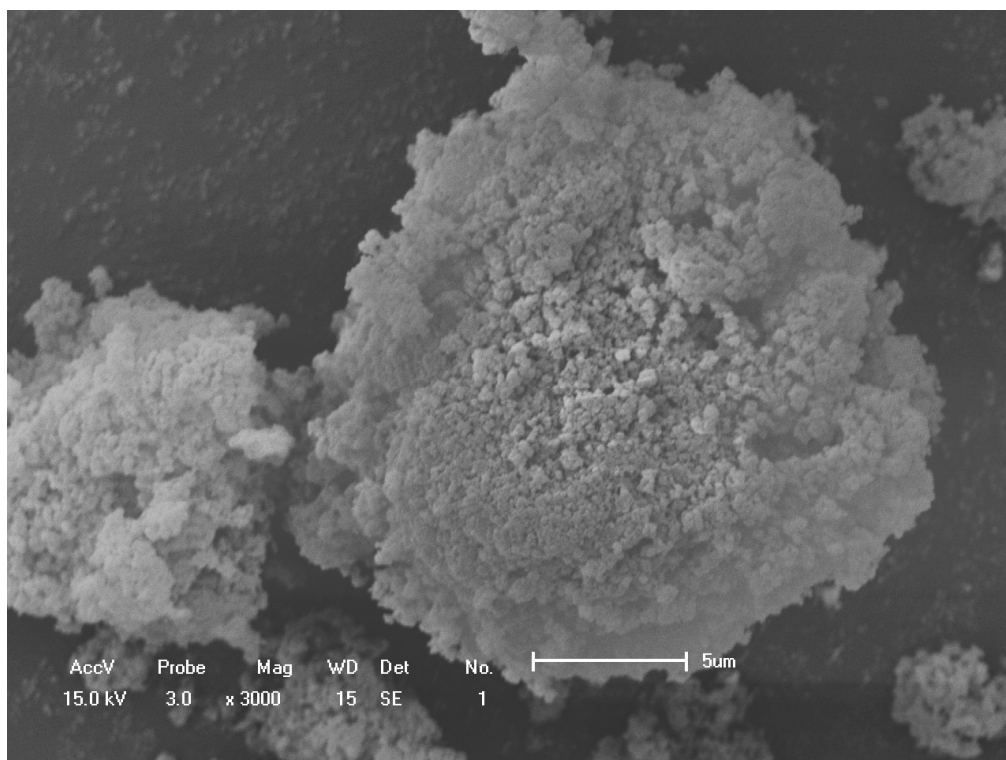


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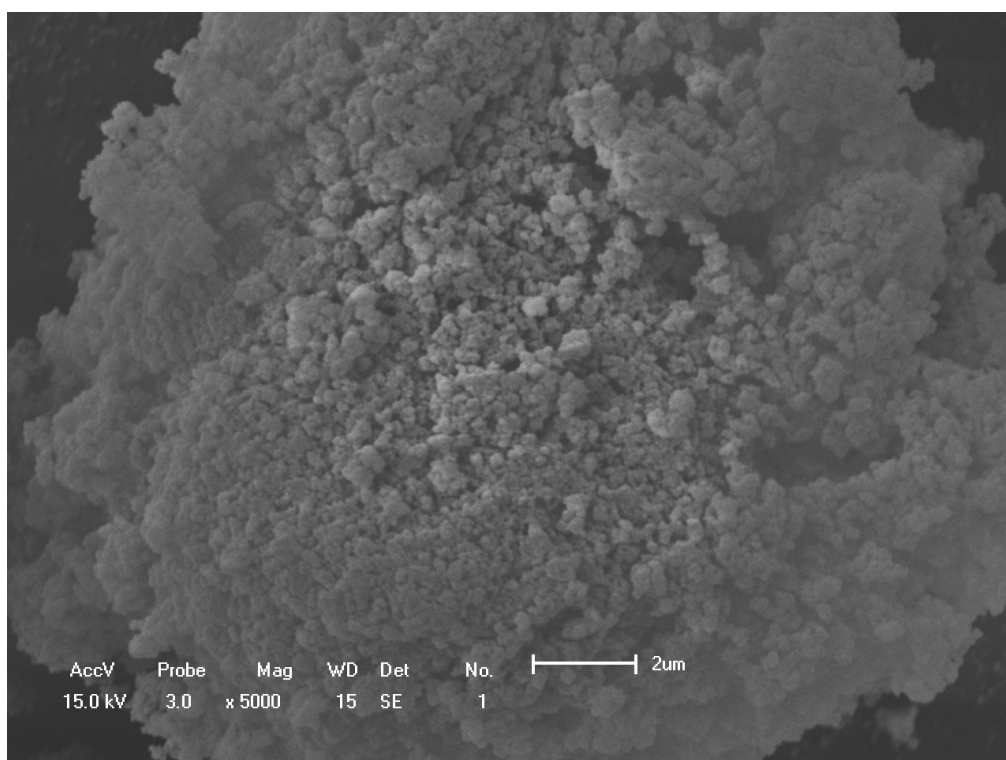


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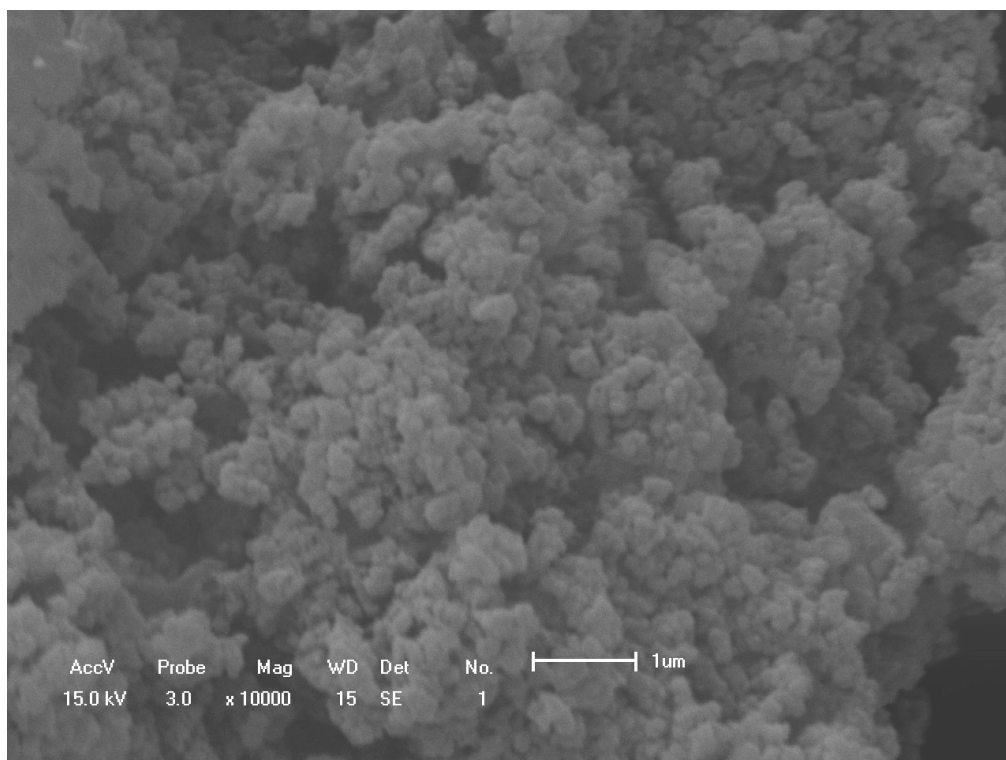


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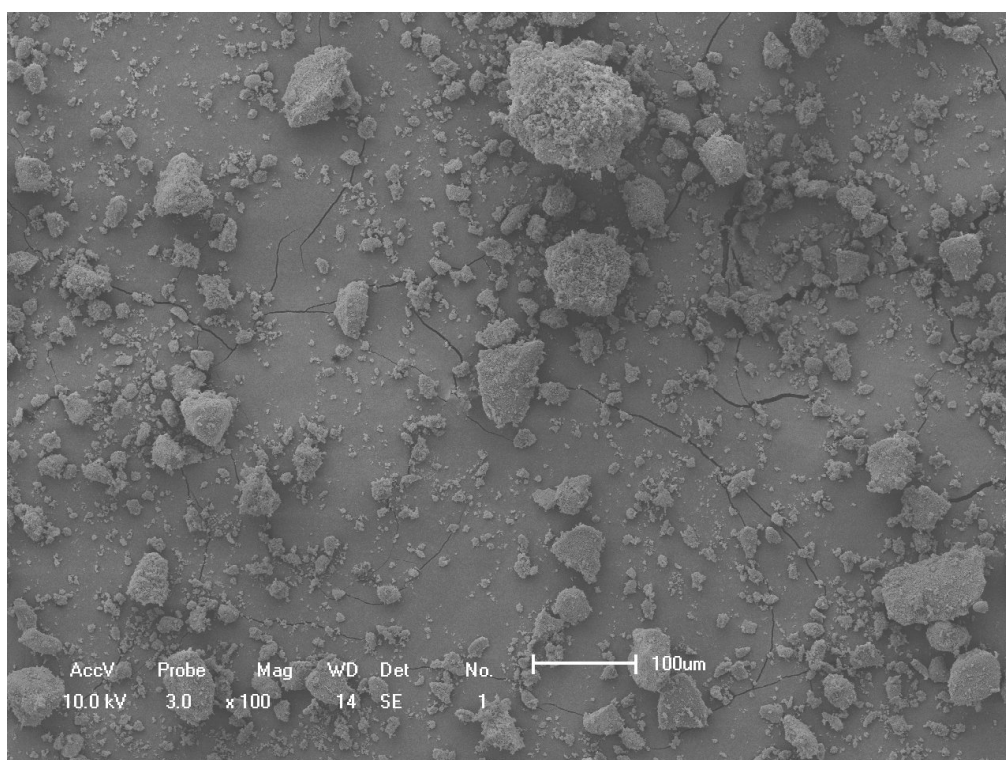


Figure S5. 3%Ru@0.1%Co/HPS 100x magnitude SEM.

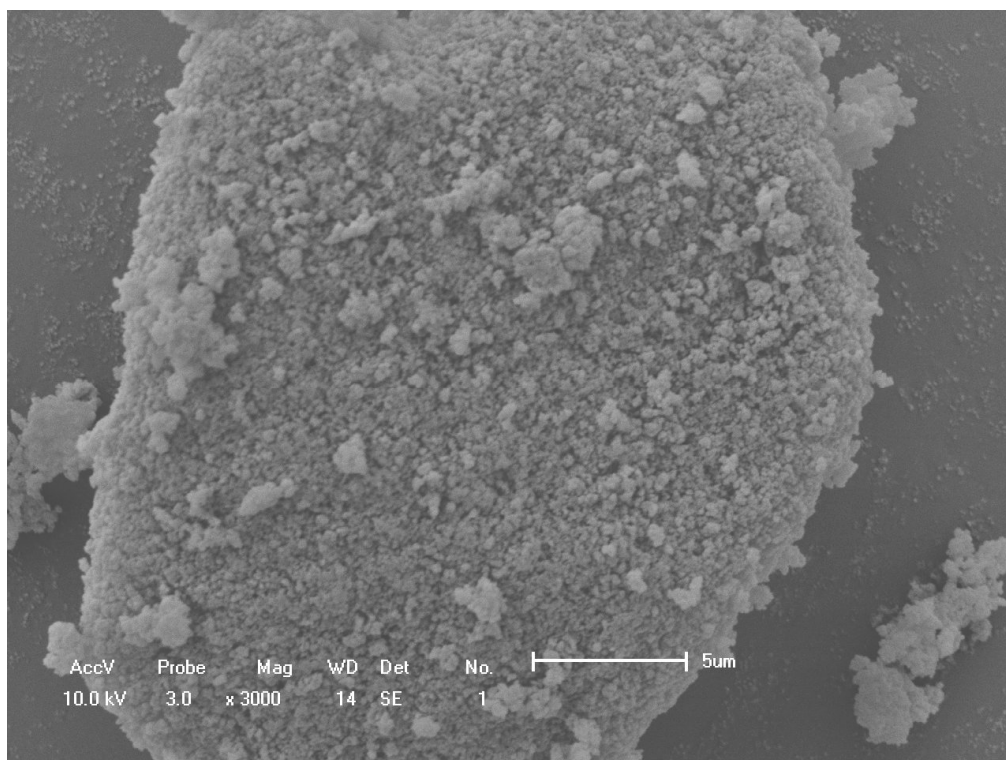


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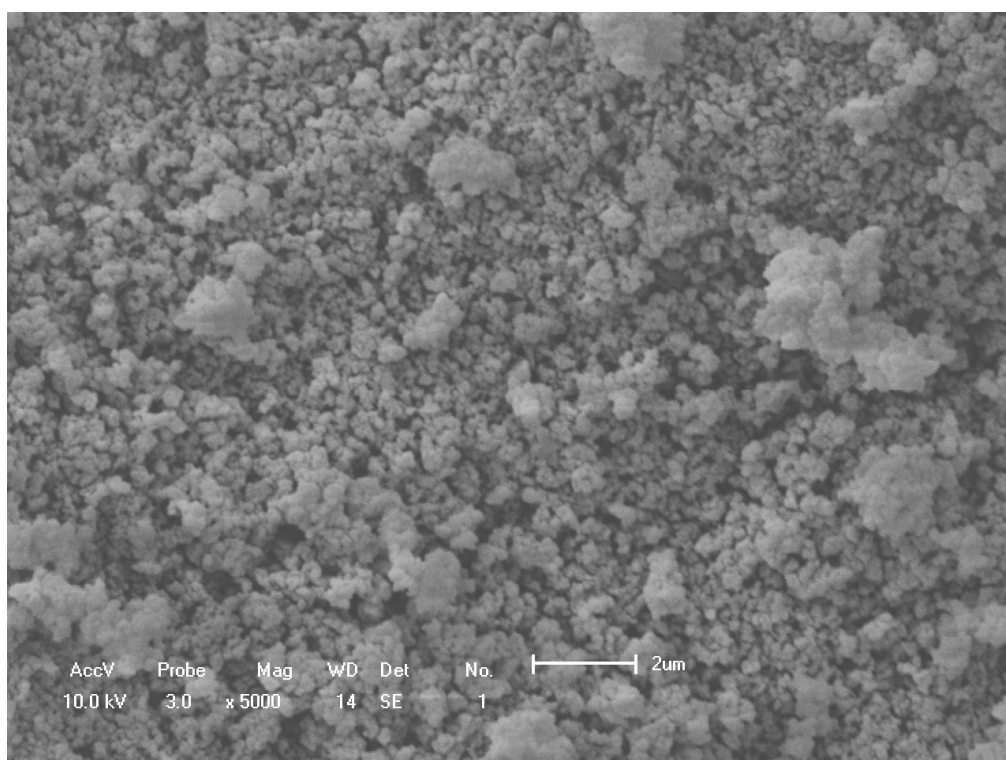


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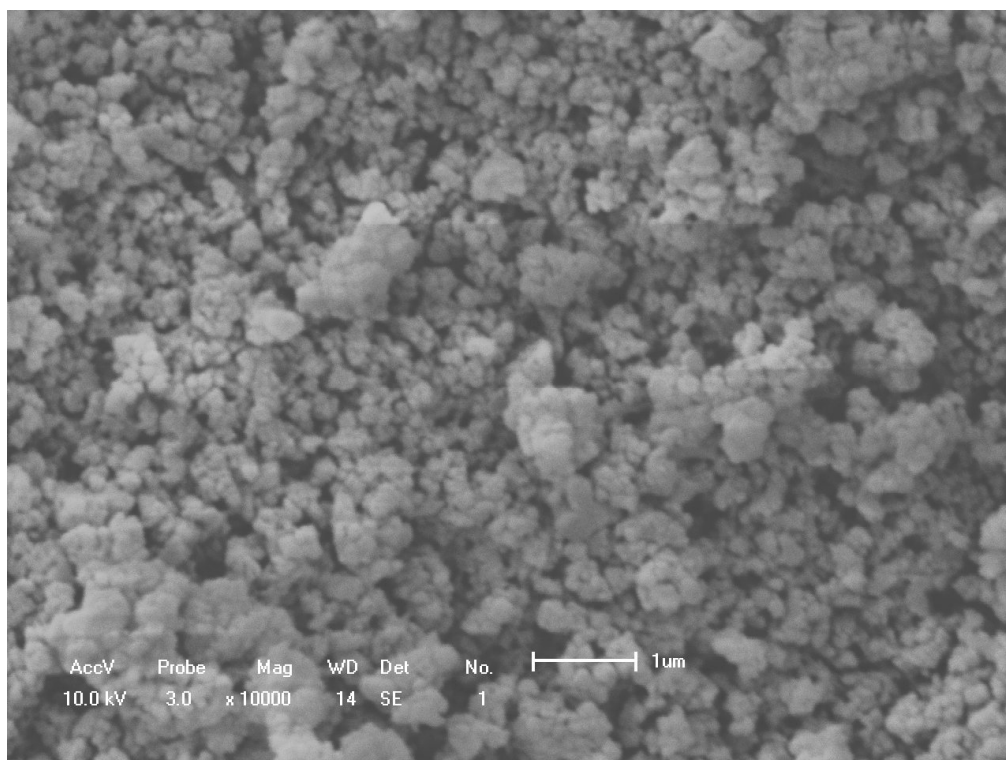


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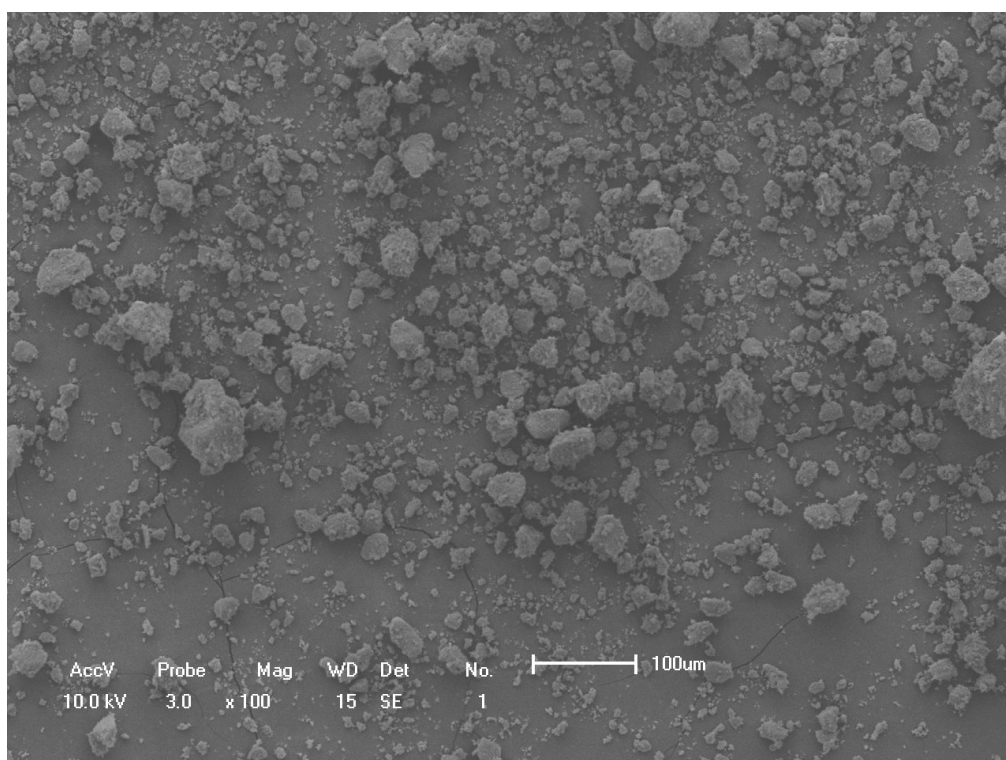


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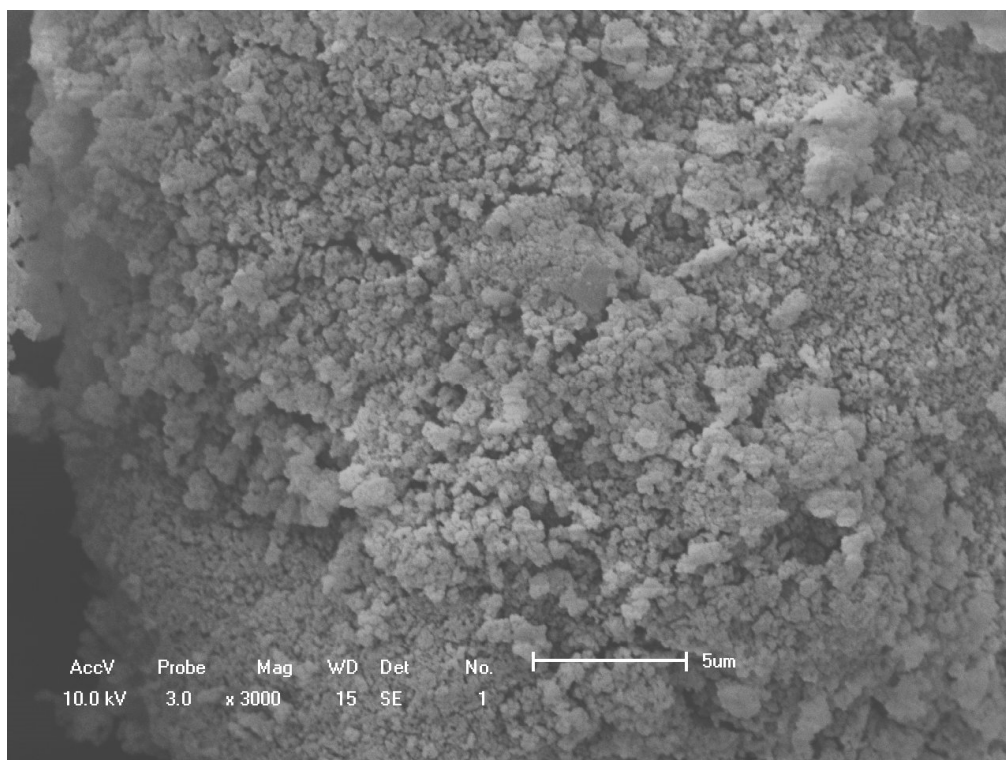


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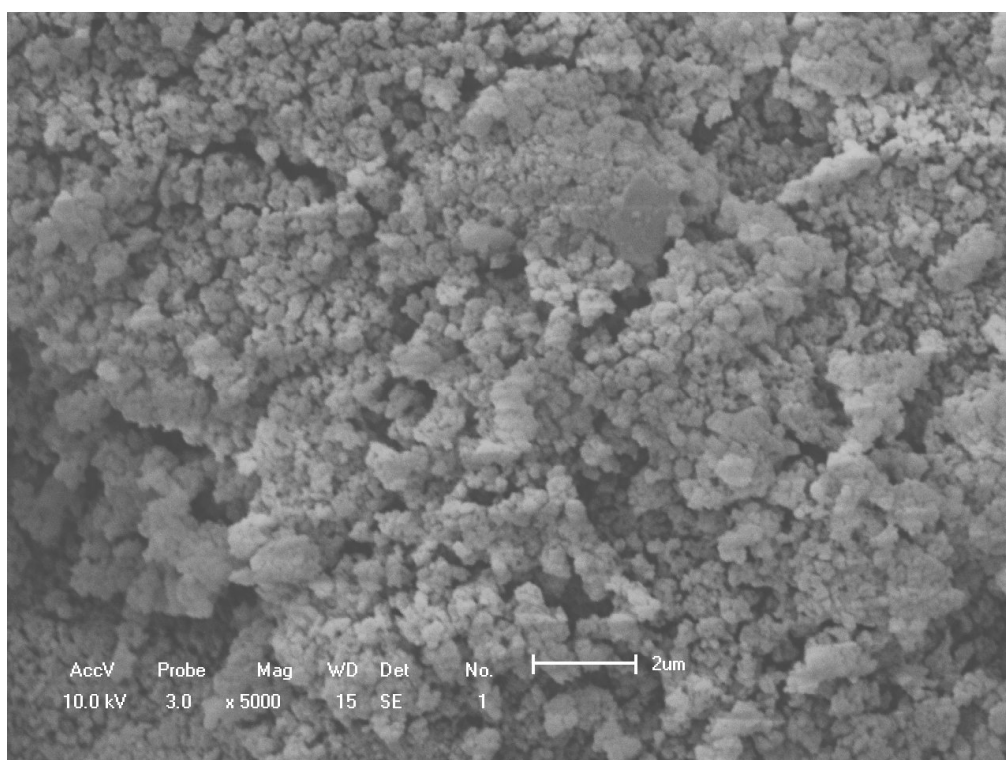


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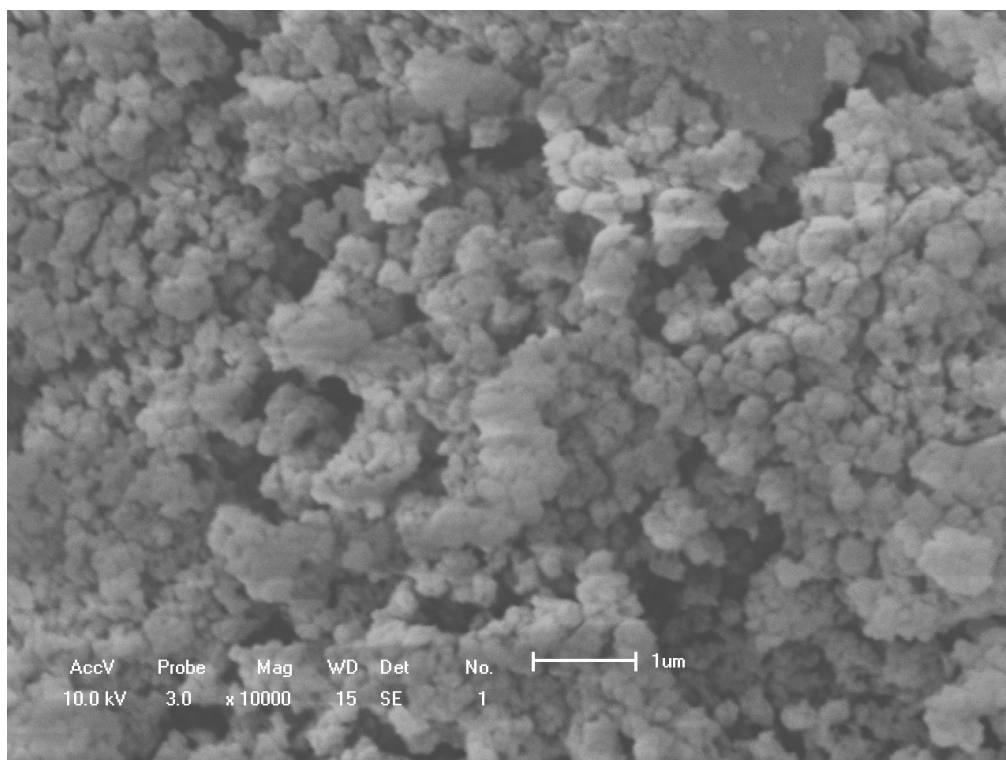


Figure S12. 3%Ru@0.1%Cu/HPS 10000x magnitude SEM.

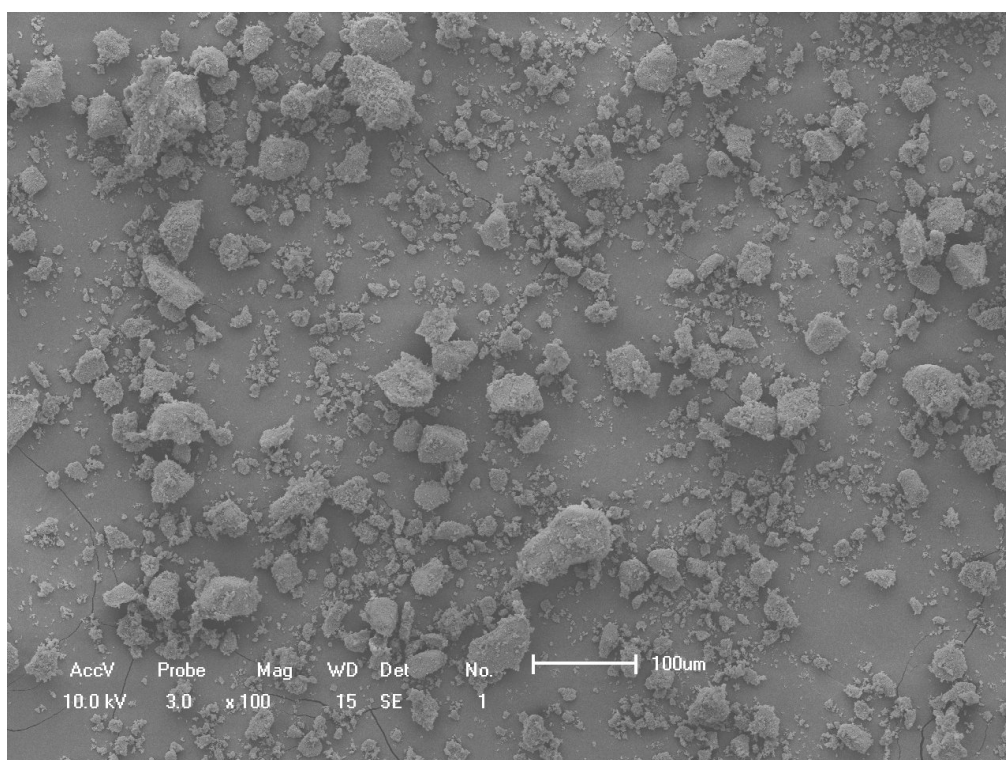


Figure S13. 3%Ru@0.1%Ni/HPS 100x magnitude SEM.

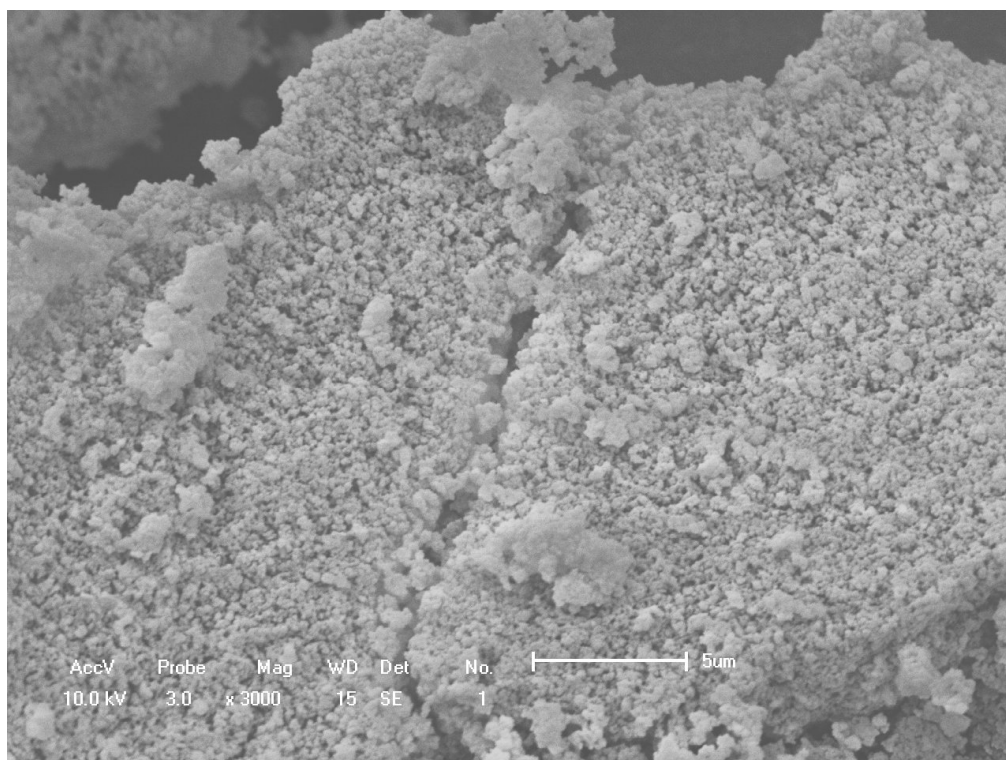


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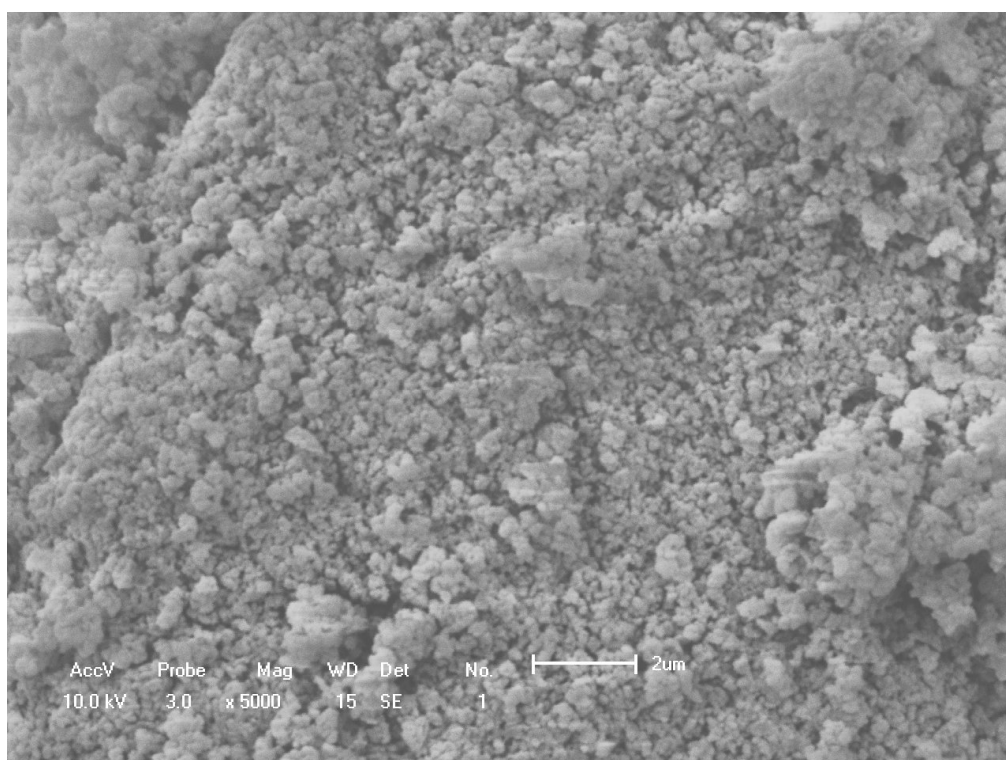


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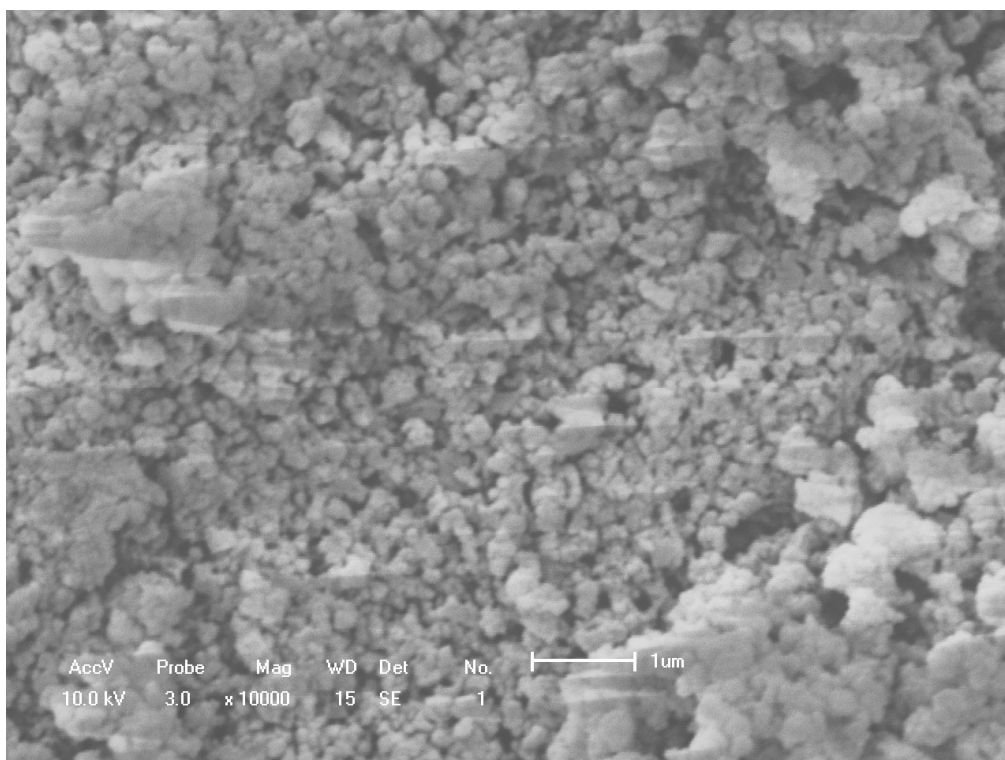


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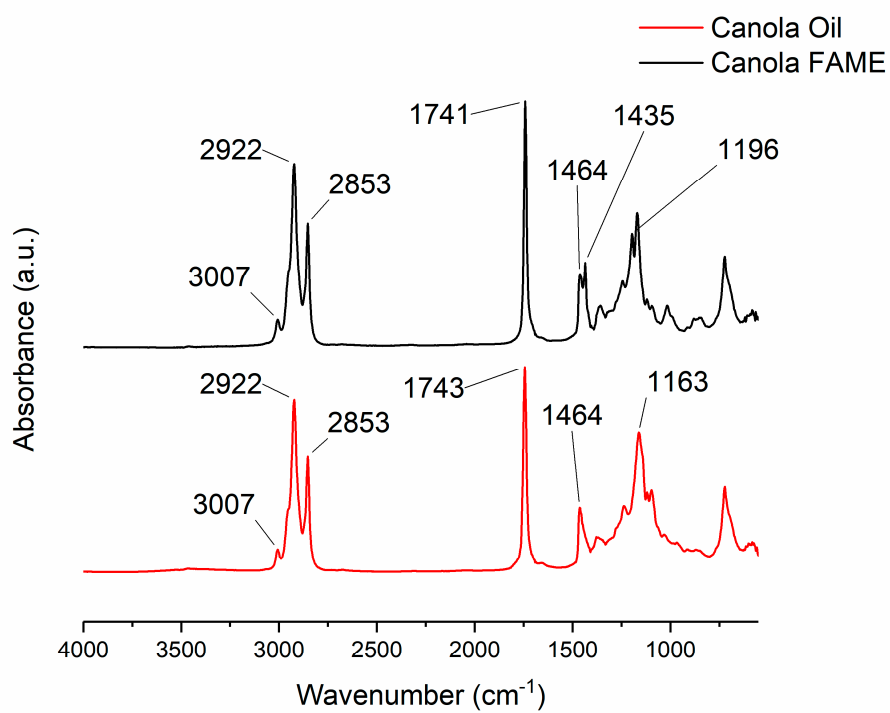


Figure S17. FT-IR spectrum of canola oil (red) and canola FAME (black).

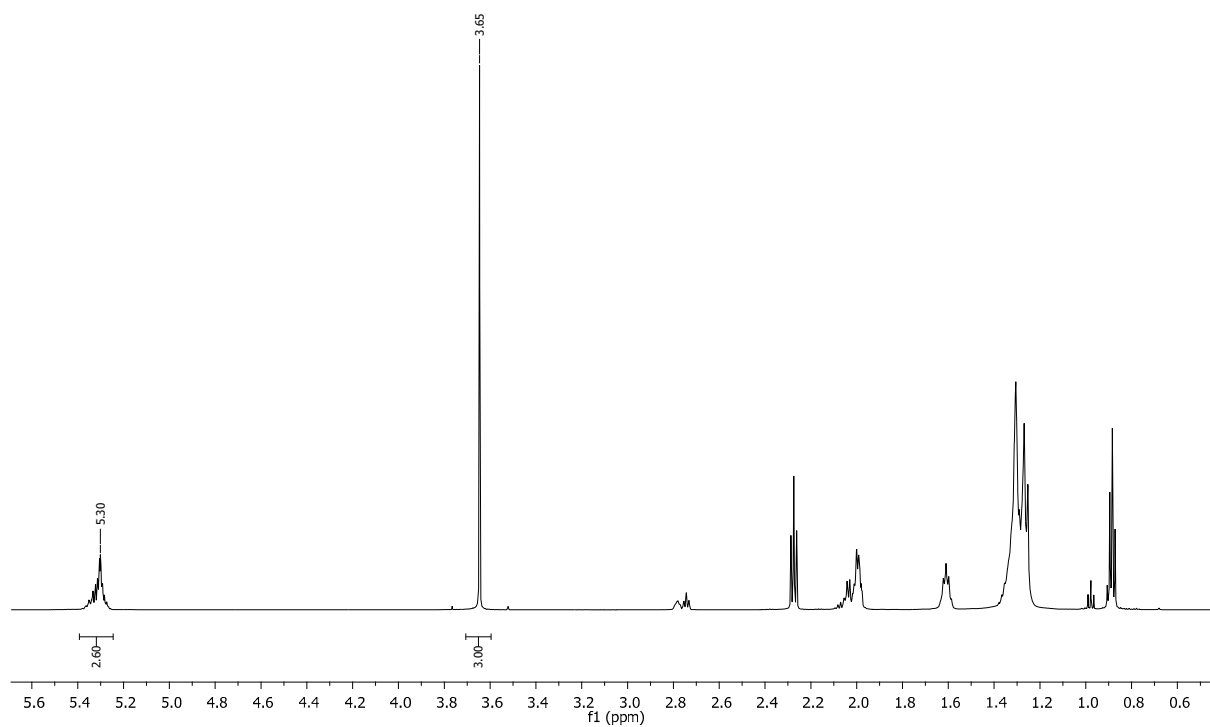


Figure S18. ^1H NMR spectrum of canola FAME in CDCl_3 .

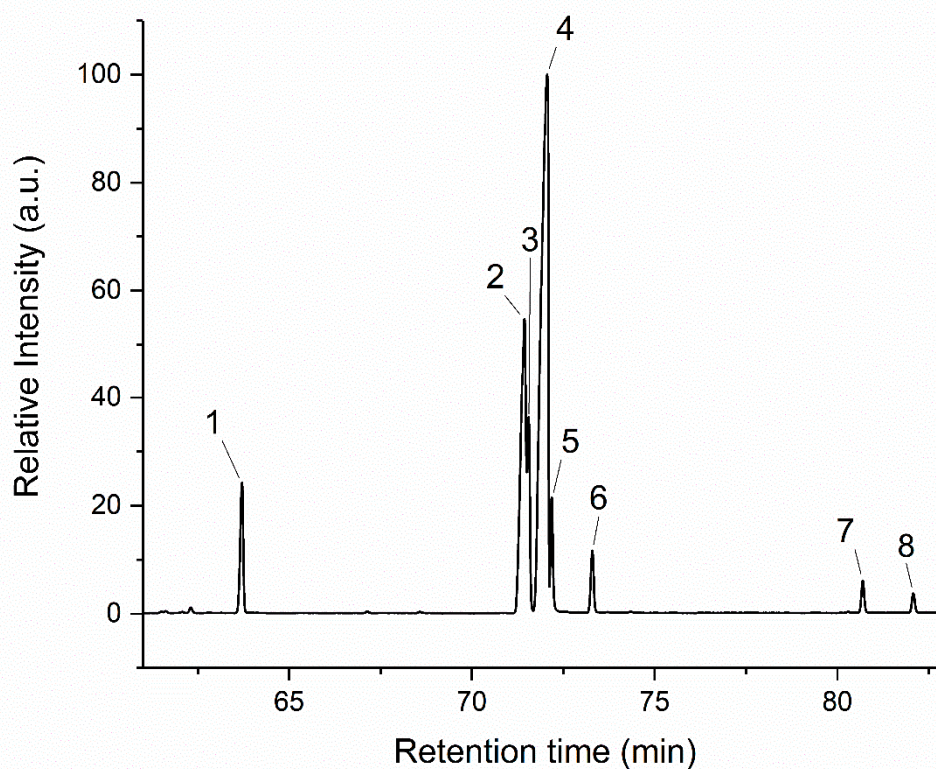


Figure S19. Canola FAME GC-MS chromatogram.

Table S1. List of identified compounds for the canola FAME CG-MS.

Peak	Compound	Retention time (min)	MS match score (%)
1	Hexadecanoic acid. methyl ester	63.70	91
2	12.15-Octadecadienoic acid. methyl ester	71.40	89
3	9.12.15-Octadecatrienoic acid. methyl ester. (Z.Z.Z)-	71.45	91
4	9-Octadecenoic acid. methyl ester. (E)-	72.10	94
5	9-Octadecenoic acid (Z)-. methyl ester	72.20	93
6	Methyl stearate	73.30	93
7	cis-13-Eicosenoic acid. methyl ester	80.70	92
8	Eicosanoic acid. methyl ester	82.10	92

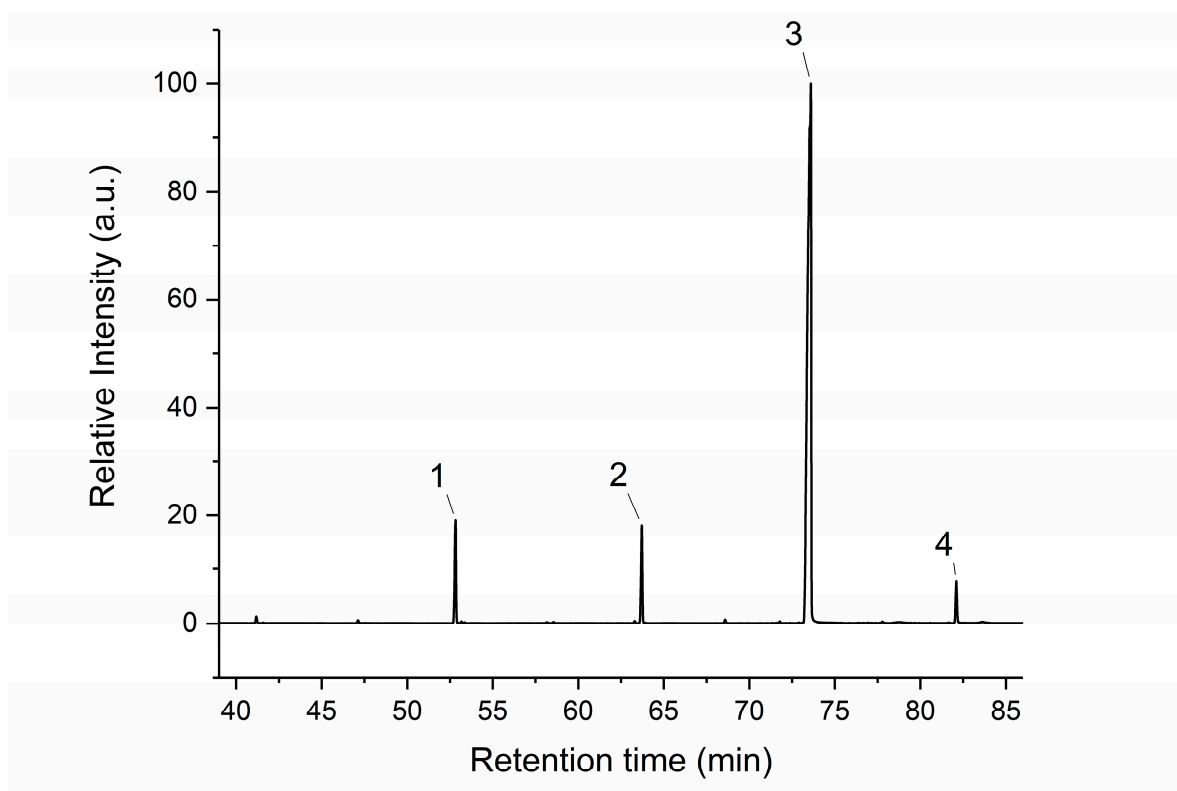


Figure S20. Hydrogenated canola FAME GC-MS chromatogram.

Table S2. List of identified compounds for the hydrogenated canola FAME CG-MS.

Peak	Compound	Retention time (min)	MS match score (%)
1	Octadecane	52.80	93
2	Hexadecanoic acid. methyl ester	63.70	92
3	Methyl stearate	73.50	93
4	Eicosanoic acid. methyl ester	82.10	91

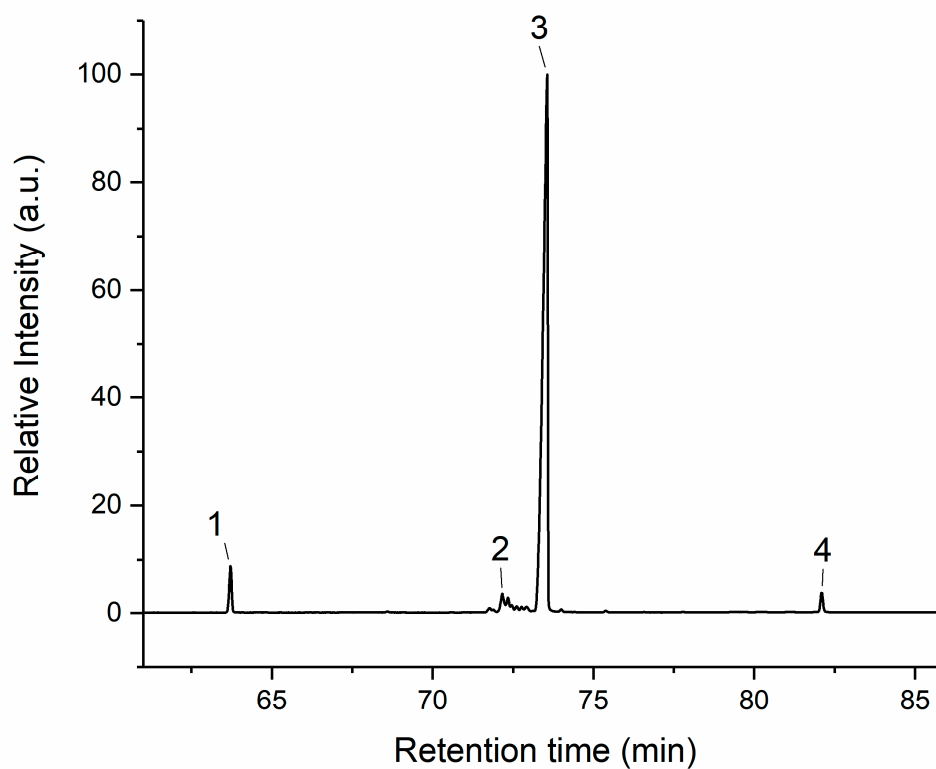


Figure S21. Hydroformylated canola FAME GC-MS chromatogram.

Table S3. List of identified compounds for the hydroformylated canola FAME CG-MS.

Peak	Compound	Retention time (min)	MS match score (%)
1	Hexadecanoic acid. methyl ester	63.70	97
2	6-Octadecenoic acid. methyl ester. (Z)-	72.20	96
3	Methyl stearate	73.60	97
4	Methyl 18-methylnonadecanoate	82.10	95

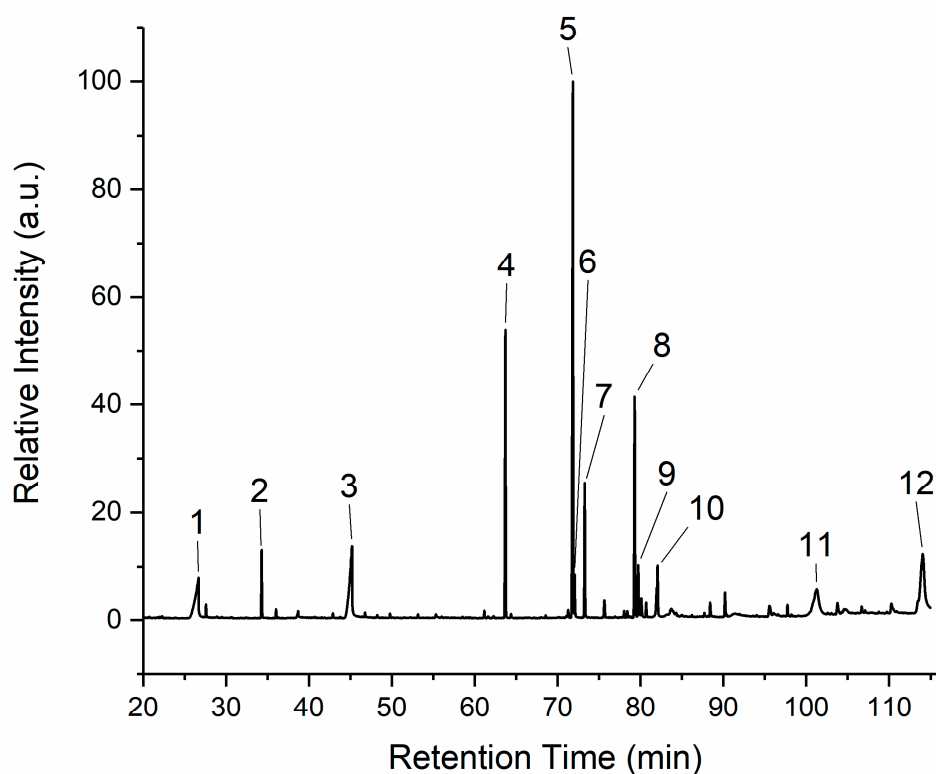


Figure S22. Oxidized canola FAME GC-MS chromatogram.

Table S4. List of identified compounds for the oxidized canola FAME CG-MS.

Peak	Compound	Retention time (min)	MS match score (%)
1	Nonanoic acid	26.70	97
2	Nonanoic acid, 9-oxo-, methyl ester	34.30	94
3	Nonanedioic acid, monomethyl ester	45.20	91
4	Hexadecanoic acid, methyl ester	63.70	92
5	9-Octadecenoic acid, methyl ester, (E)-	71.80	93
6	9-Octadecenoic acid (Z)-, methyl ester	72.00	94
7	Methyl stearate	73.30	95
8	Oxiraneoctanoic acid, 3-octyl-, methyl ester, cis-	79.30	92
9	Oxiraneoctanoic acid, 3-octyl-, cis-	79.70	82
10	Eicosanoic acid, methyl ester	82.05	89
11	Octadecanoic acid, docosyl ester	101.30	88
12	Octadecanoic acid, octadecyl ester	114.00	88

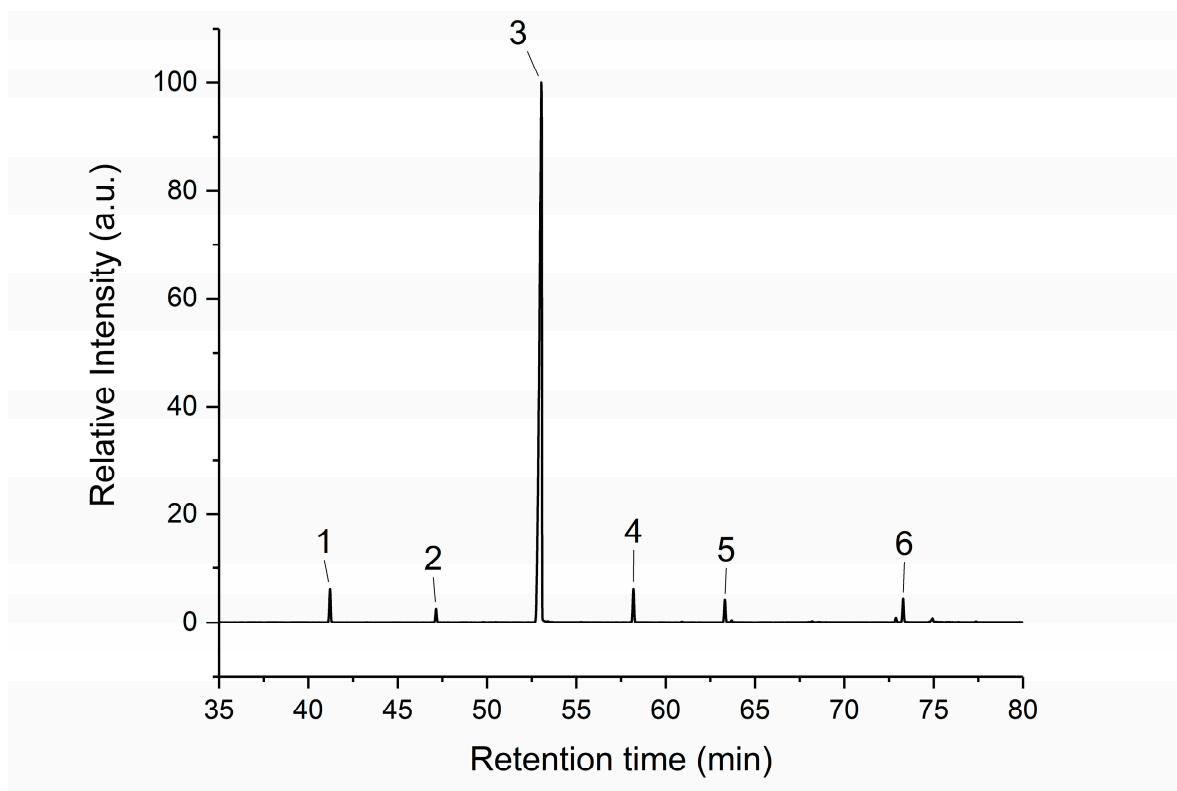


Figure S23. Deoxygenated canola FAME GC-MS chromatogram.

Table S5. List of identified compounds for the deoxygenated canola FAME CG-MS.

Peak	Compound	Retention time (min)	MS match score (%)
1	Pentadecane	41.20	97
2	Heptadecane	47.15	97
3	Heneicosane	53.00	97
4	Octadecane	58.20	98
5	Nonadecane	63.30	98
6	Methyl stearate	73.30	97