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The role of cobalt and nickel in deoxygenation of vegetable oils

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Highlights:

1. Understanding the role of Co and Ni in hydrodeoxygenation over active phase only.
2. Hydrodeoxygenation (HDO) is promoted by Ni via the Mo/Ni synergy effect on Mo edge.
3. Hydrodecarbonylation (HDC) is enhanced by Co via the adsorption of C atom on S edge.
4. Ni/Co-promoted MoS₂ prefers different reaction routes, i.e. HDO and HDC, respectively.
5. The promoting effects of Ni/Co are demonstrated by step by step reaction schemes.

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