Asymmetric Michael Addition of Aldehydes to Nitroalkenes Using JH-CPP

**Significance:** A chiral porous polymer containing the Jørgensen–Hayashi catalyst (JH-CPP) was prepared by the $\text{Co}_2(\text{CO})_8$-mediated trimerization of the ethynyl-modified Jørgensen–Hayashi catalyst $1$ with tetra(4-ethynylphenyl)methane $2$ in 98% yield. JH-CPP catalyzed the asymmetric Michael addition of aldehydes $4$ to nitroalkenes $3$ to give the corresponding adducts $5$ in 67–99% yield with high stereoselectivity (10 examples).

**Comment:** For the formation of $5b$, JH-CPP was recovered by centrifugation and reused four times without loss of stereoselectivity, while the yield of $5b$ decreased from the third reuse (1st reuse: 94% yield, 98% ee, dr = 92:8; 3rd reuse: 51% yield, 97% ee, dr = 91:9; 4th reuse: 39% yield, 97% ee, dr = 88:12). JH-CPP was characterized by N$_2$ adsorption, TGA, XRD, SEM, and $^{13}$C CP/MAS NMR spectroscopy.

SYNFACTS Contributors: Yasuhiro Uozumi, Hiroaki Tsuji

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*Category*  
Polymer-Supported Synthesis

*Key words*  
Jørgensen–Hayashi catalyst  
chiral porous polymers  
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