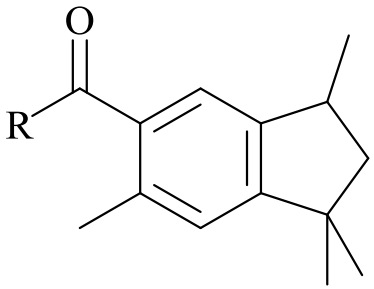
Current research

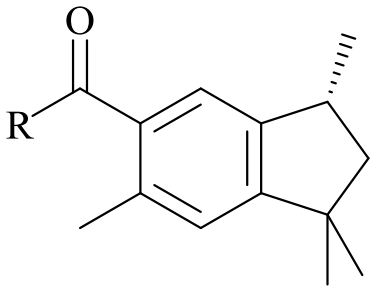
Asymmetric syntheses of organic compounds with fragrance using lipase and difference of fragrance between enantimers

M. Kawasaki *et al*., *Tetrahedron*, **73**, 2089 (2017).



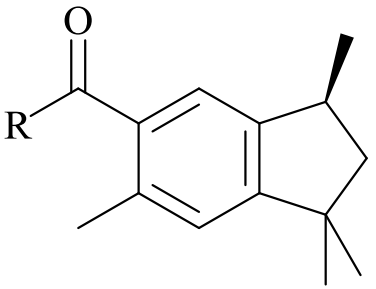
R = Me, Et

No musk odor



R = Me, Et

No musk odor



R = Me, Et

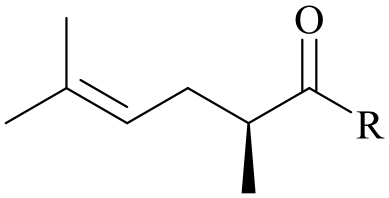
Weak musk odor

The chiral intermediate of the ketones was synthesized *via* lipase-catalyzed reaction.

Current research

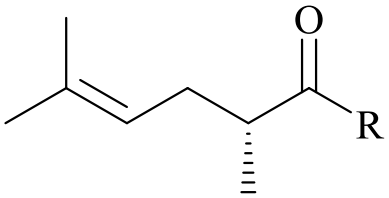
Asymmetric syntheses of organic compounds with fragrance using lipase and difference of fragrance between enantimers

M. Kawasaki *et al*., *Tetrahedron: Asymmetry*, **27**, 285 (2016).



R = Me, Et, *n*-Pr, *n*-Bu, *n*-C_5H_{11}

More citrus-like than (*R*)-enantiomers



R = Me, Et, *n*-Pr, *n*-Bu, *n*-C_5H_{11}

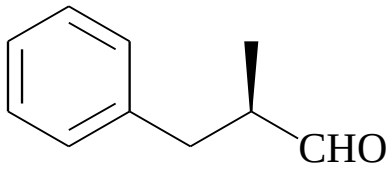
More herbal than (*S*)-enantiomers

The chiral intermediate of the ketones was synthesized *via* lipase-catalyzed reaction.

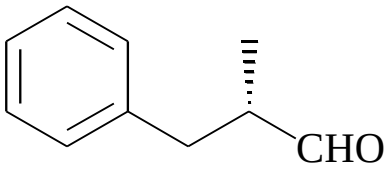
Current research

Asymmetric syntheses of organic compounds with fragrance using lipase and difference of fragrance between enantimers

M. Kawasaki *et al*., *J. Mol. Catal. B: Enzym*., **96**, 27 (2013).



citrus peel-like, Earl Grey tea-like, strong, high quality muguet note, diffusionable, more intense in floral odor than racemate and *S*-form, less intense in marine note and ozonic odor and earthy odor than racemate



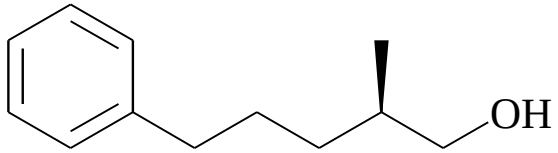
weakly intense in floral odor, more intense in earthy and ozonic odor than racemate, more musty than racemate

The chiral intermediate of the aldehydes was synthesized *via* lipase-catalyzed reaction.

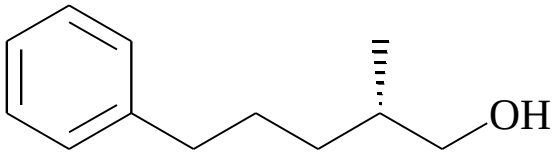
Current research

Asymmetric syntheses of organic compounds with fragrance using lipase and difference of fragrance between enantimers

M. Kawasaki *et al*., *J. Mol. Catal. B: Enzym*., **67**, 135 (2010).



green tea-like, fatty, slightly fruity, heavy, green and citrus-like

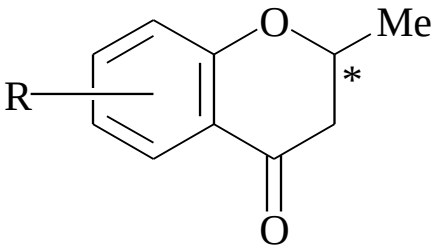


slightly citrus-like, fruity, aldehydic, citrus peel-like, pine terpene-like, powdery plum-like

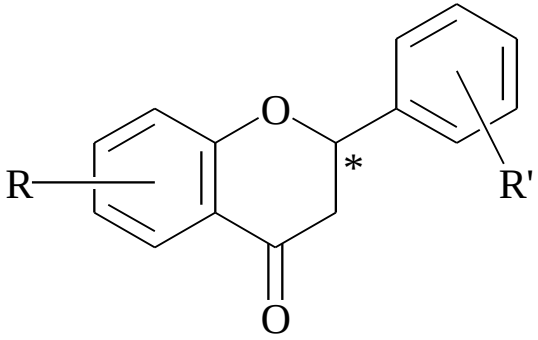
The chiral intermediate of the alcohols was synthesized *via* lipase-catalyzed reactions.

Asymmetric syntheses of chromanones using lipase

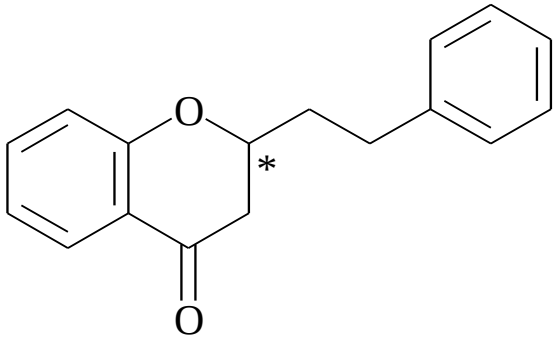
M. Kawasaki *et al*., *Tetrahedron Asymmetry*, **14**, 1529 (2003).
M. Kawasaki *et al*., *Heterocycles*, **65**, 761 (2005).
M. Kawasaki *et al*., *Heterocycles*, **68**, 483 (2006).
M. Kawasaki *et al*., *J. Mol. Catal. B: Enzym*., **54**, 93 (2008).

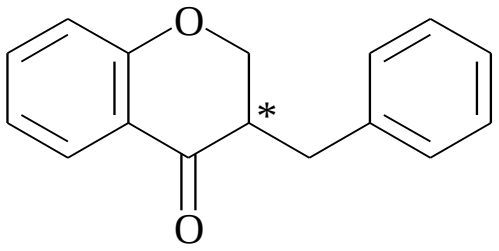


R = H
R = 6-Me
R = 7-OMe



R = H, R' = H
R = 7-OMe, R' = H
R = 7-OH, R' = H
R = 7-OMe, R' = 4-OH

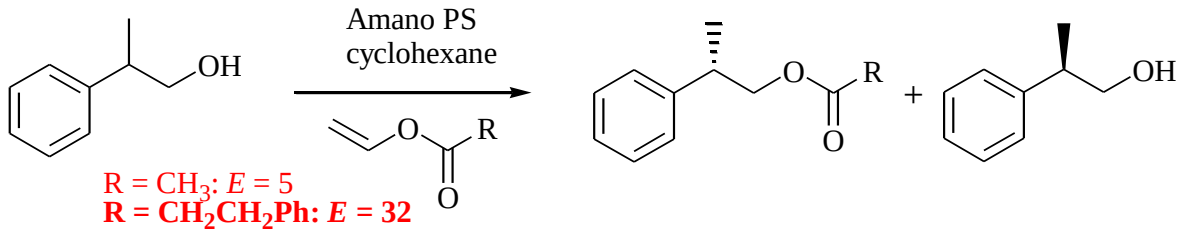


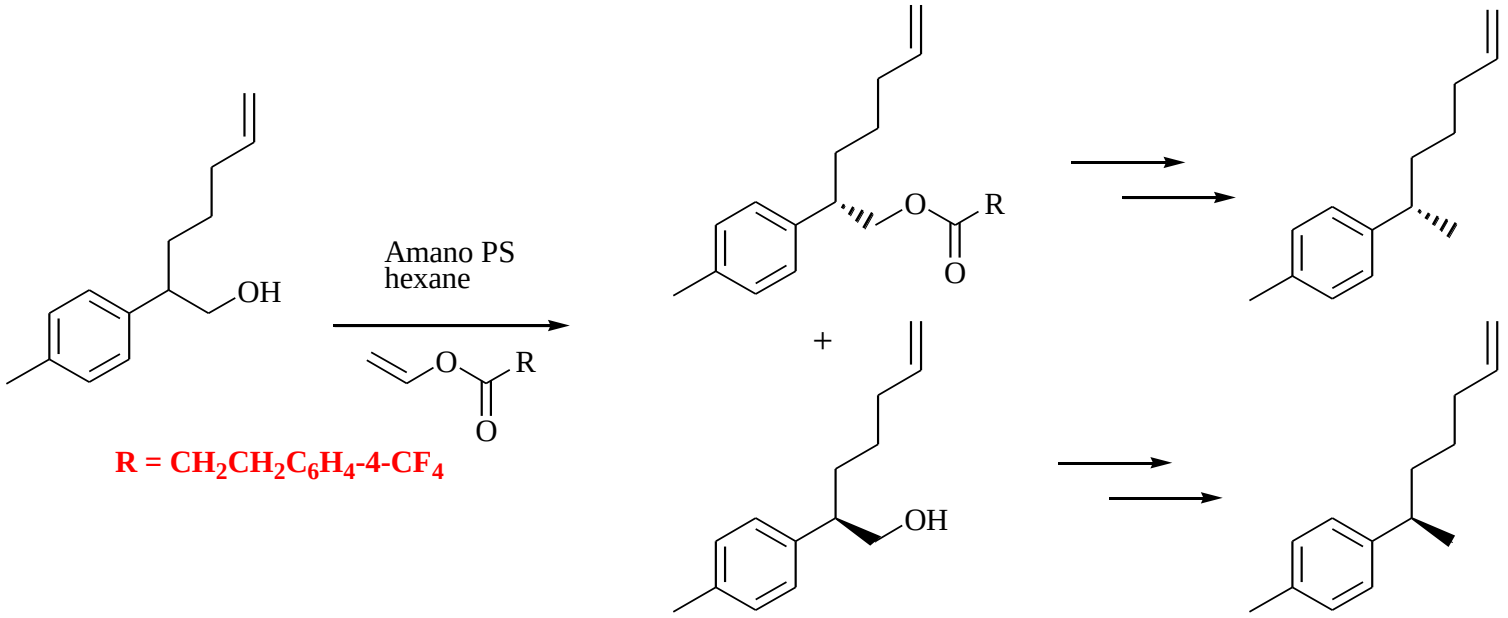


The chiral intermediates of the chromanones above were synthesized through lipase-catalyzed reactions.

Enhancement of enantioselectivity of lipase with vinyl 3-arylpropanoate as acylating reagents and application of the method to the asymmetric synthesis of natural product

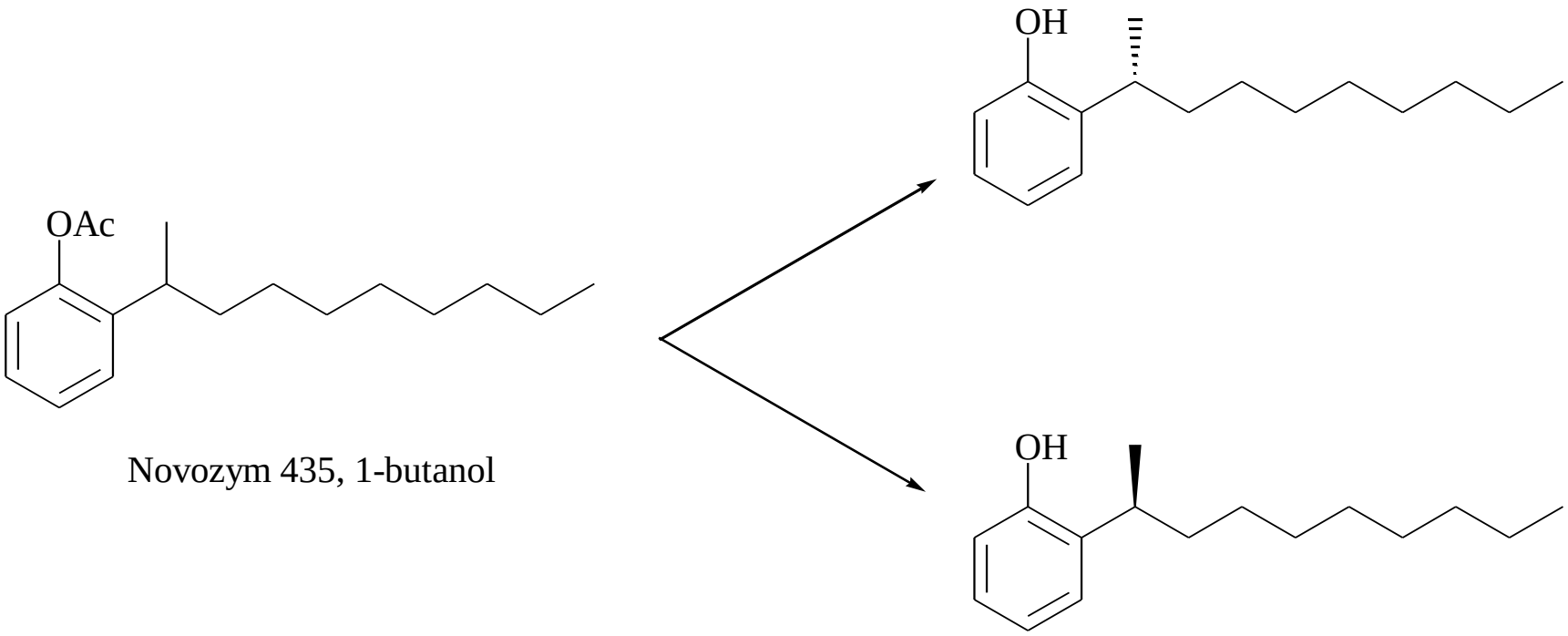
M. Kawasaki *et al*., *Tetrahedron Lett*., **40**, 5223 (1999).
M. Kawasaki *et al*., *Tetrahedron Asymmetry*, **12**, 585 (2001).
M. Kawasaki *et al*., *Tetrahedron Asymmetry*, **16**, 4065 (2005).





Solvent dependency of preferencially deacetylated enantiomer

M. Kawasaki *et al*., *J. Mol. Catal. B: Enzym*., **6**, 447 (1999).



preferencially deacetylated enantiomer in cyclohexane

preferencially deacetylated enantiomer in 1,4-dioxane