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A convenient chemoenzymatic synthesis of chiral 1-benzyl-5-(hydroxymethyl)-2-piperidone enabled by lipase AK desymmetrization of prochiral 1,3-diol and its diacetate

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5-(benzylamino)-2-(hydroxymethyl)-5-oxopentyl acetate 3
(R)-1-benzyl-4-(hydroxymethyl)piperidin-2-one 1
HPLC diagrams of *racemic*, (R)- and (S)- of monoacetate 3

**racemic-3**

Retention time: 45.5 min
Area ratio: 50.07

(R)-3: ee = 96.7% – 3.3% ≈ 93%

Retention time: 49.9 min
Area ratio: 49.93

(S)-3 ee = 96.4% – 3.6% ≈ 93%

Retention time: 49.1 min
Area ratio: 50.7%