Query

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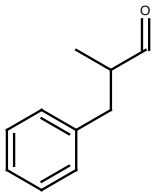
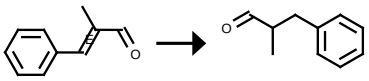
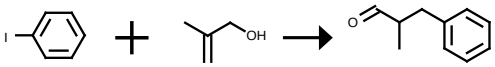
1. Query	 Search as: Product, As drawn, Ignore stereo, No salts, No mixtures, No isotopes, No additional rings	101 reactions	2010-09-13 17h:32m:38s (EST)



Rx-ID: 3798896 View in Reaxys

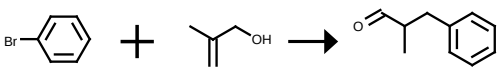
Yield	Conditions & References
95 %	**With** La(pta)3, hydrogen, palladium on activated charcoal **in** benzene, p= 750.06Torr , Ambient temperature **Komarov, Igor V.; Denisenko, Victor E.; Kornilov, Mikhail Yu.**; Tetrahedron; **vol.** 50; nb. 23; (1994); p. 6921 - 6926 View in Reaxys
91 %	**With** hydrogen, β-cyclodextrin/Pd **in** water, Time= 2h, T= 25 °C , p= 15001.2Torr **Mhadgut, Shilpa C.; Palaniappan, Kumaranand; Thimmaiah, Muralidhara; Hackney, Stephen A.; Toeroek, Bela; Liu, Jian**; Chemical Communications (Cambridge, United Kingdom); nb. 25; (2005); p. 3207 - 3209 View in Reaxys
	With hydrogen, <Rh(cycloocten)2Cl>2, 1,3-diaza-1-propene **in** tetrahydrofuran, Time= 66h, p= 825.07Torr , Ambient temperature, cat. asymmetric hydrogenation; various amidines and their Li derivatives as cocatalyst, various times, solvents and mol-ratios of the catalysts, Product distribution **Brunner, Henri; Agrifoglio, Giuseppe**; Monatshefte fuer Chemie; **vol.** 111; (1980); p. 275 - 287 View in Reaxys
	With ATPH, tert.-butyl lithium, diisobutylaluminium hydride, 1) toluene, -78 deg C; 2) toluene, THF, hexane, -78 deg C, 15 min; further reagents: n-BuLi, Yield given. Multistep reaction **Saito, Sasumu; Yamamoto, Hasashi**; Journal of Organic Chemistry; **vol.** 61; nb. 9; (1996); p. 2928 - 2929 View in Reaxys
	Reaction Steps: 2 1: $LiAlH_4$ 2: Swern oxidation **With** lithium aluminium tetrahydride **Weissfloch, Alexandra N. E.; Kazlauskas, Romas J.**; Journal of Organic Chemistry; **vol.** 60; nb. 21; (1995); p. 6959 - 6969 View in Reaxys



Rx-ID: 1442388 View in Reaxys

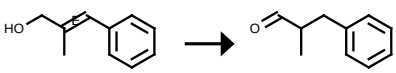
Yield	Conditions & References
81 %	**With** tetrabutyl-ammonium chloride, sodium hydrogencarbonate, palladium diacetate **in** water, Time= 20h, T= 80 °C **Zhao, Hong; Cai, Ming-Zhong; Hu, Rong-Hua; Song, Cai-Sheng**; Synthetic Communications; **vol.** 31; nb. 23; (2001); p. 3665 - 3670 View in Reaxys
52 %	**With** tetrabutylammomium bromide, sodium hydrogencarbonate, palladium dichloride, Time= 8h, T= 120 °C , Heck coupling **Bouquillon, Sandrine; Ganchegui, Benjamin; Estrine, Boris; Henin, Francoise; Muzart, Jacques**; Journal of Organometallic Chemistry; **vol.** 634; nb. 2; (2001); p. 153 - 156 View in Reaxys
31 %	**With** oxygen, triethylamine, dichloro bis(acetonitrile) palladium(II) **in** N,N-dimethyl-formamide, Time= 24h, T= 75 °C , Heck reaction **Hosokawa, Takahiro; Kamiike, Taisuke; Murahashi, Shun-Ichi; Shimada, Mamoru; Sugafuji, Toshihiro**; Tetrahedron Letters; **vol.** 43; nb. 51; (2002); p. 9323 - 9326 View in Reaxys

	With palladium diacetate, triethylamine **Melpolder,J.B.; Heck,R.F.**; Journal of Organic Chemistry; **vol.** 41; nb. 2; (1976); p. 265 - 272 View in Reaxys
	With 1-methyl-pyrrolidin-2-one, palladium diacetate, triethylamine, Time= 1h, T= 75 °C , Heck reaction **Evans, John; O'Neill, Lynn; Kambhampati, Vijaya L.; Rayner, Graham; Turin, Sandra; Genge, Anthony; Dent, Andrew J.; Neisius, Thomas**; Journal of the Chemical Society, Dalton Transactions; nb. 10; (2002); p. 2207 - 2212 View in Reaxys



Rx-ID: 25333247 View in Reaxys

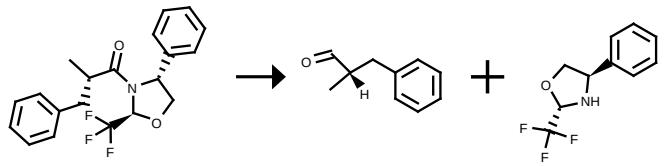
Yield	Conditions & References
	Example Name I Example Title Preparation of 3-phenyl-2-methylpropionaldehyde EXAMPLE I Preparation of 3-phenyl-2-methylpropionaldehyde The palladium catalyst (0.80 g $PdCl_2$) was dissolved in 200 ml of hexamethylphosphorictriamide (HMP) at 140.deg. C with stirring. The solution was then cooled and to it was added 50 g sodium bicarbonate, 79 g bromobenzene and 54 g methallyl alcohol. After heating for 3 hours under a nitrogen atmosphere at 145.deg. C with vigorous stirring, analysis by vapor phase chromatography revealed that the 3-phenyl-2-methylpropionaldehyde was formed in 98percent conversion. Solvent (HMP) was removed by extraction with water and the product distilled at 10 mm pressure to give 52.7 g (72percent theory). **With** sodium hydrogencarbonate, palladium **in** N,N,N',N',N'',N''-hexamethylphosphoric triamide **Patent**; **Givaudan Corporation**; US4070374; (1978); (A1) English View in Reaxys
	Example Name 123 Example Title EXAMPLE 123 EXAMPLE 123 0.08 palladium chloride and 0.22 g triethylphosphite were dissolved in 20 ml hexamethylphosphoramide. 7.9 g Bromobenzene, 5.4 g methallyl alcohol and 5 g sodium bicarbonate were added and the mixture heated to 145.deg. with stirring under nitrogen. After 5 hours the bromobenzene was 96percent converted to 3-phenyl-2-methylpropionaldehyde. **With** sodium hydrogencarbonate, triethyl phosphite, palladium(II) chloride **in** N,N,N',N',N'',N''-hexamethylphosphoric triamide **Patent**; **Givaudan Corporation**; US4070374; (1978); (A1) English View in Reaxys



Rx-ID: 8750463 View in Reaxys

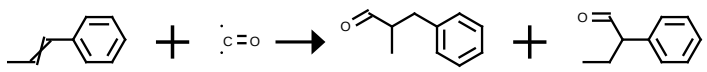
Yield	Conditions & References
Ca. 100 %	**With** [Ir(Py)(PCy_3)(COD)]BArF, hydrogen **in** tetrahydrofuran, Time= 1h, T= 23 °C **Mantilli, Luca; Mazet, Clement**; Tetrahedron Letters; **vol.** 50; nb. 28; (2009); p. 4141 - 4144 View in Reaxys
90 %	**With** $iron^{(0)}$ pentacarbonyl **in** pentane, Time= 1h, UV-irradiation **Cherkaoui, Hassan; Soufiaoui, Mohammed; Gree, Reene**; Tetrahedron; **vol.** 57; nb. 12; (2001); p. 2379 - 2384

	View in Reaxys
	With H_2 activated rhodium-phosphinine complex **in** 1,4-dioxane, Time= 1h, T= 60 °C **Reetz, Manfred T.; Guo, Hongchao**; Synlett; nb. 13; (2006); p. 2127 - 2129 View in Reaxys
	With [Ir(Py)(PCy_3)(COD)]BArF, hydrogen **in** tetrahydrofuran, Time= 1h, T= 23 °C **Mantilli, Luca; Mazet, Clement**; Chimia; **vol.** 63; nb. 1-2; (2009); p. 35 - 37 View in Reaxys



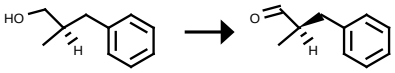
Rx-ID: 11214119 View in Reaxys

Yield	Conditions & References
90 %, 71 %	**Stage 1: With** lithium aluminium tetrahydride **in** diethyl ether, Time= 1.5h, T= -10 °C **Stage 2: With** sodium chloride **in** diethyl ether, Time= 2.5h, T= 20 °C , Further stages. **Tessier, Arnaud; Pytkowicz, Julien; Brigaud, Thierry**; Angewandte Chemie, International Edition; **vol.** 45; nb. 22; (2006); p. 3677 - 3681; Angewandte Chemie; **vol.** 118; nb. 22; (2006); p. 3759 - 3763 View in Reaxys



Rx-ID: 4340077 View in Reaxys

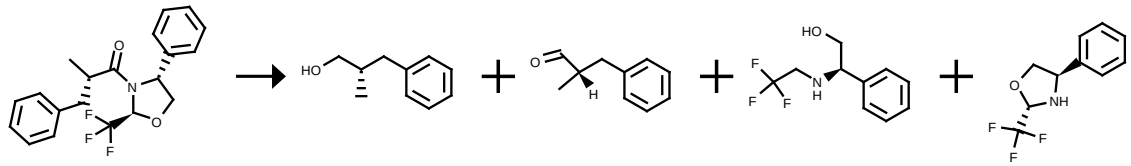
Yield	Conditions & References
92.8 %, 7.2 %	**With** hydrogen, RhH(CO)(PPh_3)3 **in** benzene, Time= 48h, T= 90 °C , p= 76000Torr **Botteghi, Carlo; Bona, Denis Dalla; Paganelli, Stefano; Marchetti, Mauro; Sechi, Barbara**; Anales de Quimica; **vol.** 92; nb. 2; (1996); p. 101 - 107 View in Reaxys
7.2 %, 92.8 %	**With** hydrogen, RhH(CO)(PPh_3)3 **in** benzene, Time= 48h, T= 90 °C , p= 76000Torr **Botteghi, Carlo; Bona, Denis Dalla; Paganelli, Stefano; Marchetti, Mauro; Sechi, Barbara**; Anales de Quimica; **vol.** 92; nb. 2; (1996); p. 101 - 107 View in Reaxys
	With [Rh(CO)2acac], triphenylphosphine-3,3',3''-trisulfonic acid trisodium salt, heptakis(2,6-di-O-methyl)-beta-cyclo-dextrin, hydrogen **in** water, Time= 6h, T= 80 °C , p= 38000Torr , stainless steel autoclave, Yield given. Yields of byproduct given. Title compound not separated from byproducts **Monflier, Eric; Tilloy, Sebastien; Fremy, Georges; Castanet, Yves; Mortreux, Andre**; Tetrahedron Letters; **vol.** 36; nb. 52; (1995); p. 9481 - 9484 View in Reaxys



Rx-ID: 28477299 View in Reaxys

Yield	Conditions & References
80 %	**With** sodium hypochlorite, 2,2,6,6-tetramethyl-1-piperidinyloxy, free radical, sodium hydrogencarbonate, potassium bromide **in** dichloromethane, water, Time= 0.25h, T= 5 - 10 °C , pH= 9.5, Inert atmosphere

	Nicewicz, David A.; Satterfield, Andrew D.; Schmitt, Daniel C.; Johnson, Jeffrey S.; Journal of the American Chemical Society; **vol.** 130; nb. 51; (2008); p. 17281 - 17283 View in Reaxys

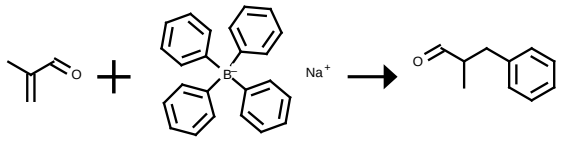


Rx-ID: 11214117 View in Reaxys

Yield	Conditions & References
69 %, 49 %, 20 %, 15 %	**With** lithium amidoborane **in** tetrahydrofuran, hexane, Time= 70h, T= 0 °C **Tessier, Arnaud; Pytkowicz, Julien; Brigaud, Thierry**; Angewandte Chemie, International Edition; **vol.** 45; nb. 22; (2006); p. 3677 - 3681; Angewandte Chemie; **vol.** 118; nb. 22; (2006); p. 3759 - 3763 View in Reaxys

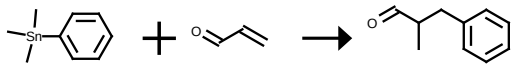
Rx-ID: 2947803 View in Reaxys

Yield	Conditions & References
96 %	**With** $RhCl(Ph_3P)$, hydrogen, sodium acetate, triphenylphosphine **in** benzene, Time= 24h, T= 110 °C , p= 103430Torr **Nalesnik, Theodore E.; Freudenberger, John H.; Orchin, Milton**; Journal of Organometallic Chemistry; **vol.** 221; nb. 2; (1981); p. 193 - 198 View in Reaxys
	Reaction Steps: 2 1: 98 percent / $LiAlH_4$, $AlCl_3$ / tetrahydrofuran / Heating 2: 94 percent / Swern oxidation **With** lithium aluminium tetrahydride, aluminium trichloride **in** tetrahydrofuran **Meyers, A. I.; Walkup, Robert D.**; Tetrahedron; **vol.** 41; nb. 22; (1985); p. 5089 - 5106 View in Reaxys



Rx-ID: 4151255 View in Reaxys

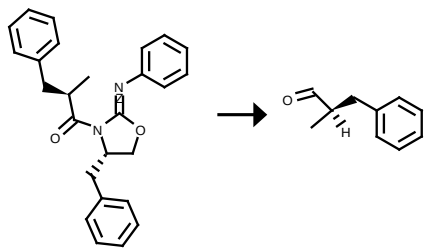
Yield	Conditions & References
41 %	**With** sodium acetate, $SbCl_3$, palladium diacetate **in** acetic acid, Time= 24h, T= 25 °C **Cho, Chan Sik; Motofusa, Shin-ichi; Ohe, Kouichi; Uemura, Sakae; Shim, Sang Chul**; Journal of Organic Chemistry; **vol.** 60; nb. 4; (1995); p. 883 - 888 View in Reaxys



Rx-ID: 9027615 View in Reaxys

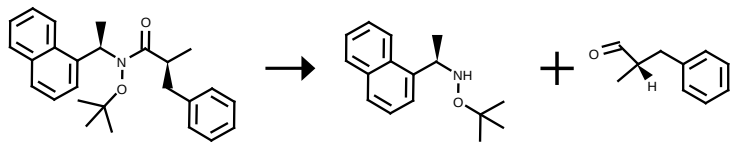
Yield	Conditions & References
52 %	**With** water, $[Rh(NCMe)2(cod)][BF_4]$ **in** tetrahydrofuran, T= 60 °C

	Oi, Shuichi; Moro, Mitsutoshi; Ito, Hisanori; Honma, Yoshio; Miyano, Sotaro; Inoue, Yoshio; Tetrahedron; **vol.** 58; nb. 1; (2002); p. 91 - 98 View in Reaxys



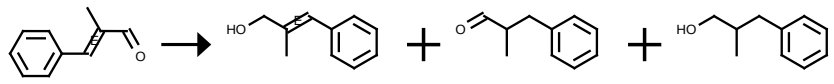
Rx-ID: 9043913 View in Reaxys

Yield	Conditions & References
94 %	**With** diisobutylaluminium hydride **in** dichloromethane, Time= 0.0833333h, T= -78 °C **Lee, Gue-Jae; Kim, Taek Hyeon; Kim, Jae Nyoung; Lee, Uk**; Tetrahedron: Asymmetry; **vol.** 13; nb. 1; (2002); p. 9 - 12 View in Reaxys



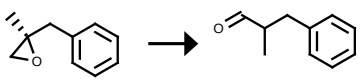
Rx-ID: 28815744 View in Reaxys

Yield	Conditions & References
95 %, 91 %	**Stage 1: With** lithium aluminium tetrahydride **in** tetrahydrofuran, T= -15 °C , Inert atmosphere **Stage 2: With** (-)-(1R)-camphor-10-sulfonic acid **in** pentane, Time= 1h, optical yield given as percent ee **Chernega, Alexander N.; Davies, Stephen G.; Hepworth, David; Kurosawa, Wataru; Roberts, Paul M.; Thomson, James E.; Goodwin, Christopher J.**; Organic Letters; **vol.** 11; nb. 15; (2009); p. 3254 - 3257 View in Reaxys



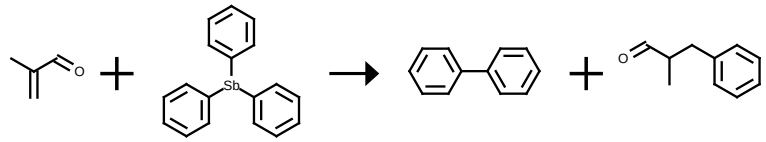
Rx-ID: 4896828 View in Reaxys

Yield	Conditions & References
6 % Chromat., 0 % Chromat., 78 %	**With** 4-(N,N-dimethlyamino)pyridine, formic acid, $Rh_6(CO)12$, carbon monoxide **in** tetrahydrofuran, Time= 10h, T= 30 °C , p= 3800Torr **Mizugaki, Tomoo; Kanayama, Yoshinori; Ebitani, Kohki; Kaneda, Kiyotomi**; Journal of Organic Chemistry; **vol.** 63; nb. 7; (1998); p. 2378 - 2381 View in Reaxys
	With 4-(N,N-dimethlyamino)pyridine, formic acid, $Rh_6(CO)12$, carbon monoxide **in** tetrahydrofuran, Time= 10h, T= 30 °C , p= 3800Torr , base effect, Product distribution **Mizugaki, Tomoo; Kanayama, Yoshinori; Ebitani, Kohki; Kaneda, Kiyotomi**; Journal of Organic Chemistry; **vol.** 63; nb. 7; (1998); p. 2378 - 2381 View in Reaxys



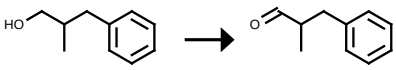
Rx-ID: 5066823 View in Reaxys

Yield	Conditions & References
79 %	**With** perchloric acid **in** 1,4-dioxane, Time= 0.583333h, T= 20 °C , Rearrangement **Orru, Romano V. A.; Mayer, Sandra F.; Kroutil, Wolfgang; Faber, Kurt**; Tetrahedron; **vol.** 54; nb. 5-6; (1998); p. 859 - 874 View in Reaxys



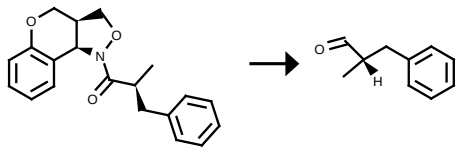
Rx-ID: 1695417 View in Reaxys

Yield	Conditions & References
35 %	**With** silver(I) acetate, palladium diacetate **in** acetic acid, Time= 24h, T= 25 °C **Cho, Chan Sik; Tanabe, Koichiro; Uemura, Sakae**; Tetrahedron Letters; **vol.** 35; nb. 8; (1994); p. 1275 - 1278 View in Reaxys



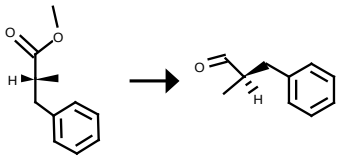
Rx-ID: 2085030 View in Reaxys

Yield	Conditions & References
94 %	Swern oxidation **Meyers, A. I.; Walkup, Robert D.**; Tetrahedron; **vol.** 41; nb. 22; (1985); p. 5089 - 5106 View in Reaxys
82 %	**With** chromium(VI) oxide **Arjona, Odon; Perez-Ossorio, Rafael; Perez-Rubalcaba, Alfredo; Quiroga, Maria L.**; Journal of the Chemical Society, Perkin Transactions 2: Physical Organic Chemistry (1972-1999); (1981); p. 597 - 603 View in Reaxys
	With Swern oxidation **Weissfloch, Alexandra N. E.; Kazlauskas, Romas J.**; Journal of Organic Chemistry; **vol.** 60; nb. 21; (1995); p. 6959 - 6969 View in Reaxys
	With Dess-Martin periodane **in** dichloromethane, T= 0 - 25 °C **Zhang, Minsheng; Porte, Alex; Diamantidis, George; Sogi, Kimberly; Kubrak, Dennis; Resnick, Lynn; Mayer, Scott C.; Wang, Zheng; Kreft, Anthony F.; Harrison, Boyd L.**; Bioorganic and Medicinal Chemistry Letters; **vol.** 17; nb. 9; (2007); p. 2401 - 2403 View in Reaxys



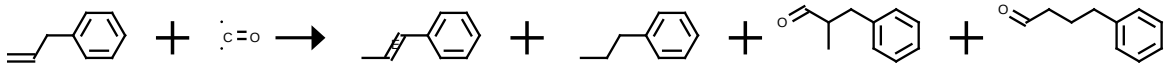
Rx-ID: 4201380 View in Reaxys

Yield	Conditions & References
86 %	**With** diisobutylaluminium hydride **in** tetrahydrofuran, Time= 3h, T= 0 °C **Abiko, Atsushi; Moriya, Osamu; Filla, Sandra A.; Masamune, Satoru**; Angewandte Chemie; **vol.** 107; nb. 7; (1995); p. 869 - 871 View in Reaxys



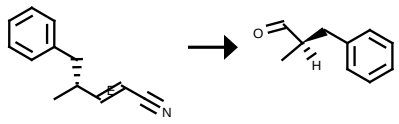
Rx-ID: 4825340 View in Reaxys

Yield	Conditions & References
70 %	**With** diisobutylaluminium hydride **in** toluene, T= -78 °C **Simpson, Thomas J.; Smith, Robert W.; Westaway, Susan M.; Willis, Christine L.; Buss, Antony D.; et al.**; Tetrahedron Letters; **vol.** 38; nb. 30; (1997); p. 5367 - 5370 View in Reaxys



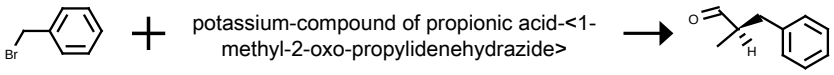
Rx-ID: 9936433 View in Reaxys

Yield	Conditions & References
62.8 %, 30 %, 1.5 %, 5 %	**With** hydrogen, N-dodecyl-(2-hydroxyethyl)-dimethylammonium bromide, {Rh(cod)[μ-S(CH_2)3Si(OMe)3]}2, triphenylphosphine **in** water, butan-1-ol, Time= 6h, T= 80 °C , p= 10350.8Torr , microemulsion/sol-gel, Further byproducts given **Abu-Reziq, Raed; Avnir, David; Blum, Jochanan**; European Journal of Organic Chemistry; nb. 17; (2005); p. 3640 - 3642 View in Reaxys



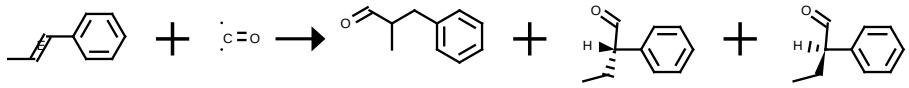
Rx-ID: 11086818 View in Reaxys

Yield	Conditions & References
80 %	**Stage 1: With** ozone **in** dichloromethane, Time= 0.5h, T= -78 °C **Stage 2: With** thiourea **in** dichloromethane, T= -78 - 20 °C , Further stages. **Baeza, Alejandro; Najera, Carmen; Sansano, Jose M.**; European Journal of Organic Chemistry; nb. 7; (2007); p. 1101 - 1112 View in Reaxys



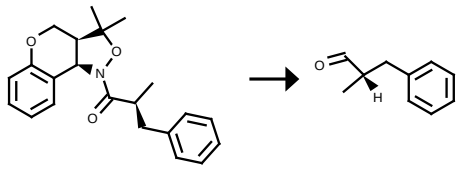
Rx-ID: 17078664 View in Reaxys

Yield	Conditions & References
	Reaction Steps: 4 1: 90 percent / NaHMDS 2: LiOH, H_2O_2 4: 70 percent / DIBALH / toluene / -78 °C **With** lithium hydroxide, dihydrogen peroxide, sodium hexamethyldisilazane, diisobutylaluminium hydride **in** toluene **Simpson, Thomas J.; Smith, Robert W.; Westaway, Susan M.; Willis, Christine L.; Buss, Antony D.; et al.**; Tetrahedron Letters; **vol.** 38; nb. 30; (1997); p. 5367 - 5370 View in Reaxys
	Reaction Steps: 2 1: 90 percent / LiCl, diisopropylamine, n-BuLi / tetrahydrofuran; hexane / 0.25 h / 0 °C 2: LiAlH(OEt)3 / tetrahydrofuran; hexane / 1 h / 0 °C **With** n-butyllithium, LiAlH(OEt)3, diisopropylamine, lithium chloride **in** tetrahydrofuran, hexane **Myers, Andrew G.; Yang, Bryant H.; Chen, Hou; McKinstry, Lydia; Kopecky, David J.; Gleason, James L.**; Journal of the American Chemical Society; **vol.** 119; nb. 28; (1997); p. 6496 - 6511 View in Reaxys
	Reaction Steps: 2 1: 88 percent / LDA, LiCl / tetrahydrofuran / 0.33 h / 0 °C 2: 1.) LiAl(OEt)3H, 2.) HCl / 1.) hexane/THF, -78 deg C to 0 deg C, 1 h, 2.) TFA, 20 deg C, 5 min **With** hydrogenchloride, LiAlH(OEt)3, lithium chloride, lithium diisopropyl amide **in** tetrahydrofuran **Paterson, Ian; Fessner, Klaus; Finlay, M. Raymond V.**; Tetrahedron Letters; **vol.** 38; nb. 24; (1997); p. 4301 - 4304 View in Reaxys



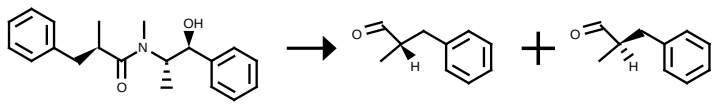
Rx-ID: 1763840 View in Reaxys

Yield	Conditions & References
2 %	**With** [Rh(CO)2acac], hydrogen, (R,S)-binaphos **in** benzene, p= 76000Torr , Yield given. Yields of byproduct given. Title compound not separated from byproducts **Nozaki, Kyoko; Sakai, Nozomu; Nanno, Tetsuo; Higashijima, Takanori; Mano, Satoshi; et al.**; Journal of the American Chemical Society; **vol.** 119; nb. 19; (1997); p. 4413 - 4423 View in Reaxys
	With [Rh(CO)2acac], (R)-<2-(diphenylphosphino)-1,1'-binaphthalen-2'-yl><(S)-1,1'-binaphthalen-2,2'-diyl>phosphite>, hydrogen **in** benzene, Time= 50h, T= 60 °C , p= 76000Torr , Yield given. Yields of byproduct given. Title compound not separated from byproducts **Sakai, Nozomu; Nozaki, Kyoko; Takaya, Hidemasa**; Journal of the Chemical Society, Chemical Communications; nb. 4; (1994); p. 395 - 396 View in Reaxys
	With Rh(acac)2(CO)2, $C_{66}H_{70}N_4O_7P_2$, hydrogen, Time= 24h, T= 40 °C , p= 3878.71Torr , optical yield given as percent ee **Watkins, Avery L.; Hashiguchi, Brian G.; Landis, Clark R.**; Organic Letters; **vol.** 10; nb. 20; (2008); p. 4553 - 4556 View in Reaxys



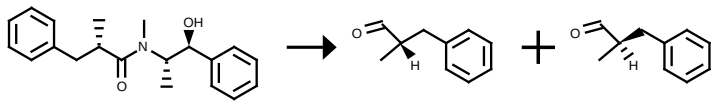
Rx-ID: 4201313 View in Reaxys

Yield	Conditions & References
84 %	**With** diisobutylaluminium hydride **in** tetrahydrofuran, Time= 3h, T= 0 °C **Abiko, Atsushi; Moriya, Osamu; Filla, Sandra A.; Masamune, Satoru**; Angewandte Chemie; **vol.** 107; nb. 7; (1995); p. 869 - 871 View in Reaxys



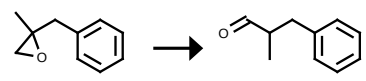
Rx-ID: 4016111 View in Reaxys

Yield	Conditions & References
	With LiAlH(OEt)3, Yield given. Yields of byproduct given. Title compound not separated from byproducts **Myers, Andrew G.; Yang, Bryant H.; Chen, Hou; Gleason, James L.**; Journal of the American Chemical Society; **vol.** 116; nb. 20; (1994); p. 9361 - 9362 View in Reaxys
	With LiAlH(OEt)3 **in** tetrahydrofuran, hexane, Time= 1h, T= 0 °C , Yield given. Yields of byproduct given. Title compound not separated from byproducts **Myers, Andrew G.; Yang, Bryant H.; Chen, Hou; McKinstry, Lydia; Kopecky, David J.; Gleason, James L.**; Journal of the American Chemical Society; **vol.** 119; nb. 28; (1997); p. 6496 - 6511 View in Reaxys



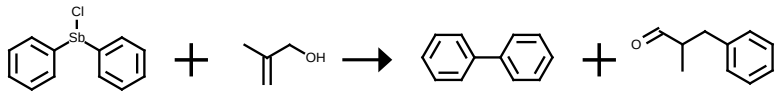
Rx-ID: 4016115 View in Reaxys

Yield	Conditions & References
	With LiAlH(OEt)3, Yield given. Yields of byproduct given. Title compound not separated from byproducts **Myers, Andrew G.; Yang, Bryant H.; Chen, Hou; Gleason, James L.**; Journal of the American Chemical Society; **vol.** 116; nb. 20; (1994); p. 9361 - 9362 View in Reaxys
	With LiAlH(OEt)3 **in** tetrahydrofuran, hexane, Time= 1.2h, T= 0 °C , Yield given. Yields of byproduct given. Title compound not separated from byproducts **Myers, Andrew G.; Yang, Bryant H.; Chen, Hou; McKinstry, Lydia; Kopecky, David J.; Gleason, James L.**; Journal of the American Chemical Society; **vol.** 119; nb. 28; (1997); p. 6496 - 6511 View in Reaxys



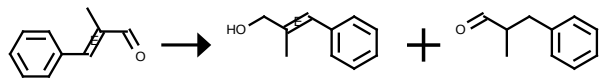
Rx-ID: 4299522 View in Reaxys

Yield	Conditions & References
	With sulfuric acid **Malinovskii,M.S.; Yudasina,A.G.**; J. Gen. Chem. USSR (Engl. Transl.); **vol.** 30; nb. 6; (1960); p. 1831 - 1837,1814 - 1820 View in Reaxys
	Reaction Steps: 2 1: Tris-buffer / Nocardia EH / 48 h / 30 °C / pH 7.5 2: 79 percent / conc. $HClO_4$ / dioxane / 0.58 h / 20 °C **With** perchloric acid, tris-buffer, Nocardia EH **in** 1,4-dioxane, 1: Hydrolysis / 2: Rearrangement **Orru, Romano V. A.; Mayer, Sandra F.; Kroutil, Wolfgang; Faber, Kurt**; Tetrahedron; **vol.** 54; nb. 5-6; (1998); p. 859 - 874 View in Reaxys



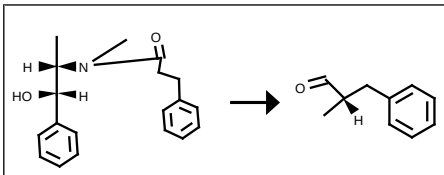
Rx-ID: 5182314 View in Reaxys

Yield	Conditions & References
67 %	**With** palladium diacetate **in** acetonitrile, Time= 44h, T= 25 °C , Yields of byproduct given **Matoba, Kazutaka; Motofusa, Shin-ichi; Cho, Chan Sik; Ohe, Kouichi; Uemura, Sakae**; Journal of Organometallic Chemistry; **vol.** 574; nb. 1; (1999); p. 3 - 10 View in Reaxys



Rx-ID: 9342575 View in Reaxys

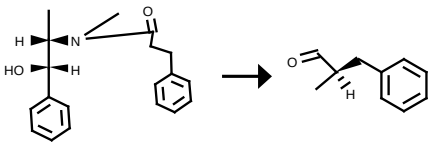
Yield	Conditions & References
60 %, 35 %	**With** dicobalt octacarbonyl, water **in** ethylene glycol dimethyl ether, Time= 2h, Heating **Lee, Hee-Yoon; An, Mihyun**; Tetrahedron Letters; **vol.** 44; nb. 14; (2003); p. 2775 - 2778 View in Reaxys



Rx-ID: 17169381 View in Reaxys

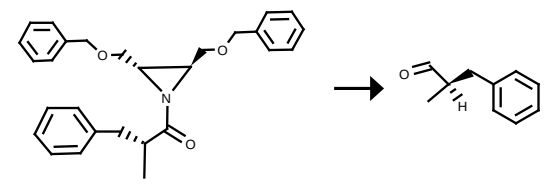
Yield	Conditions & References
	Reaction Steps: 2 1: 95 percent / LiCl, diisopropylamine, n-BuLi / tetrahydrofuran; hexane / -78 °C 2: LiAlH(OEt)3 / tetrahydrofuran; hexane / 1.2 h / 0 °C **With** n-butyllithium, LiAlH(OEt)3, diisopropylamine, lithium chloride **in** tetrahydrofuran, hexane **Myers, Andrew G.; Yang, Bryant H.; Chen, Hou; McKinstry, Lydia; Kopecky, David J.; Gleason, James L.**; Journal of the American Chemical Society; **vol.** 119; nb. 28; (1997); p. 6496 - 6511 View in Reaxys
	Reaction Steps: 2 1: 1.) LDA, LiCl / 1.) THF, from -78 to 23 deg C, 80 min, 2.) THF, -78 deg C, 8 h 2: LiAlH(OEt)3 **With** LiAlH(OEt)3, lithium chloride, lithium diisopropyl amide

	Myers, Andrew G.; Yang, Bryant H.; Chen, Hou; Gleason, James L.; Journal of the American Chemical Society; **vol.** 116; nb. 20; (1994); p. 9361 - 9362 View in Reaxys



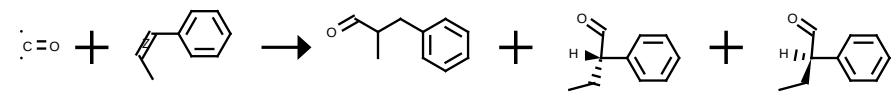
Rx-ID: 17169382 View in Reaxys

Yield	Conditions & References
	Reaction Steps: 2 1: 95 percent / LiCl, diisopropylamine, n-BuLi / tetrahydrofuran; hexane / -78 °C 2: LiAlH(OEt)3 / tetrahydrofuran; hexane / 1.2 h / 0 °C **With** n-butyllithium, LiAlH(OEt)3, diisopropylamine, lithium chloride **in** tetrahydrofuran, hexane **Myers, Andrew G.; Yang, Bryant H.; Chen, Hou; McKinstry, Lydia; Kopecky, David J.; Gleason, James L.**; Journal of the American Chemical Society; **vol.** 119; nb. 28; (1997); p. 6496 - 6511 View in Reaxys
	Reaction Steps: 2 1: 1.) LDA, LiCl / 1.) THF, from -78 to 23 deg C, 80 min, 2.) THF, -78 deg C, 8 h 2: LiAlH(OEt)3 **With** LiAlH(OEt)3, lithium chloride, lithium diisopropyl amide **Myers, Andrew G.; Yang, Bryant H.; Chen, Hou; Gleason, James L.**; Journal of the American Chemical Society; **vol.** 116; nb. 20; (1994); p. 9361 - 9362 View in Reaxys



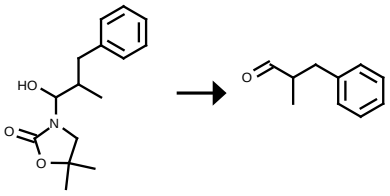
Rx-ID: 2515341 View in Reaxys

Yield	Conditions & References
40 %	**With** lithium aluminium tetrahydride **in** diethyl ether, Time= 3h, Ambient temperature **Tanner, David; Birgersson, Carin; Gogoll, Adolf; Luthman, Kristina**; Tetrahedron; **vol.** 50; nb. 32; (1994); p. 9797 - 9824 View in Reaxys



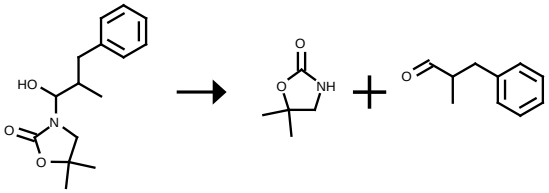
Rx-ID: 4723801 View in Reaxys

Yield	Conditions & References
22 %	**With** [Rh(CO)2acac], hydrogen, (R,S)-binaphos **in** benzene, p= 76000Torr , Yield given. Yields of byproduct given. Title compound not separated from byproducts **Nozaki, Kyoko; Sakai, Nozomu; Nanno, Tetsuo; Higashijima, Takanori; Mano, Satoshi; et al.**; Journal of the American Chemical Society; **vol.** 119; nb. 19; (1997); p. 4413 - 4423 View in Reaxys



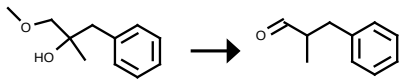
Rx-ID: 5226177 View in Reaxys

Yield	Conditions & References
91 %	**With** sodium hydroxide, sodium hydrogensulfite, Elimination **Bach, Jordi; Bull, Steven D.; Davies, Stephen G; Nicholson, Rebecca L.; Sanganee, Hitesh J.; Smith, Andrew D.**; Tetrahedron Letters; **vol.** 40; nb. 36; (1999); p. 6677 - 6680 View in Reaxys



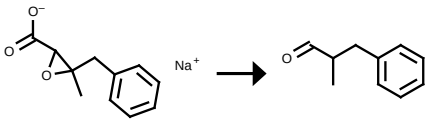
Rx-ID: 9344285 View in Reaxys

Yield	Conditions & References
91 %, 81 %	**With** sodium hydroxide, sodium hydrogensulfite, Time= 6h, pH= 9 **Bach, Jordi; Blachere, Cecile; Bull, Steven D.; Davies, Stephen G.; Nicholson, Rebecca L.; Price, Paul D.; Sanganee, Hitesh J.; Smith, Andrew D.**; Organic and Biomolecular Chemistry; **vol.** 1; nb. 12; (2003); p. 2001 - 2010 View in Reaxys



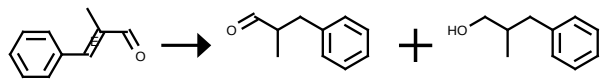
Rx-ID: 1112160 View in Reaxys

Yield	Conditions & References
79 %	**With** formic acid, Time= 3h, T= 100 °C **Duchene, Alain; Mouko-Mpegna, David; Quintard, Jean-Paul**; Bulletin de la Societe Chimique de France; nb. 5; (1985); p. 787 - 793 View in Reaxys
	With ion-exchange resin <H^+ form> **Ferrari,G.; Casagrande,C.**; Farmaco, Edizione Scientifica; **vol.** 18; (1963); p. 780 - 792 View in Reaxys



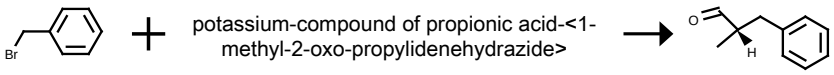
Rx-ID: 2242327 View in Reaxys

Yield	Conditions & References
52 %	**With** hydrogenchloride **in** water, Time= 2h, Heating **Dumpis, M. A.; Kudryashova, N. I.; Veresova, M. A.**; Zhurnal Organicheskoi Khimii; **vol.** 25; nb. 7.2; (1989); p. 1477 - 1482,1332 - 1337 View in Reaxys



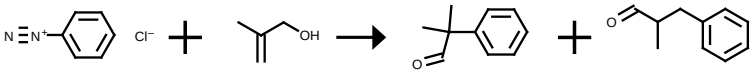
Rx-ID: 3798897 View in Reaxys

Yield	Conditions & References
	With hydrogen, <((t-Bu)2PH)PdP(t-Bu)2>2 saturated with oxygen **in** tetrahydrofuran, Time= 15h, p= 760Torr , Ambient temperature, Yield given. Yields of byproduct given. Title compound not separated from byproducts **Sommovigo, Milena; Alper, Howard**; Tetrahedron Letters; **vol.** 34; nb. 1; (1993); p. 59 - 62 View in Reaxys



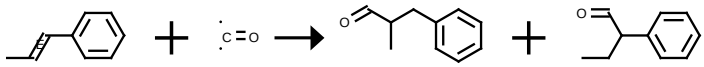
Rx-ID: 17163130 View in Reaxys

Yield	Conditions & References
	Reaction Steps: 2 1: 90 percent / LiCl, diisopropylamine, n-BuLi / tetrahydrofuran; hexane / 0.25 h / 0 °C 2: LiAlH(OEt)3 / tetrahydrofuran; hexane / 1 h / 0 °C **With** n-butyllithium, LiAlH(OEt)3, diisopropylamine, lithium chloride **in** tetrahydrofuran, hexane **Myers, Andrew G.; Yang, Bryant H.; Chen, Hou; McKinstry, Lydia; Kopecky, David J.; Gleason, James L.**; Journal of the American Chemical Society; **vol.** 119; nb. 28; (1997); p. 6496 - 6511 View in Reaxys



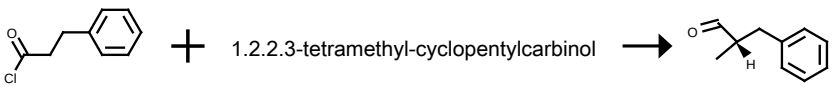
Rx-ID: 3920964 View in Reaxys

Yield	Conditions & References
	With sodium acetate, palladium **in** ethyl acetate, acetonitrile, Time= 2h, Ambient temperature, Yield given. Yields of byproduct given **Kikukawa, K.; Nagira, K.; Wada, F.; Matsuda, T.**; Tetrahedron; **vol.** 37; (1981); p. 31 - 36 View in Reaxys



Rx-ID: 11171303 View in Reaxys

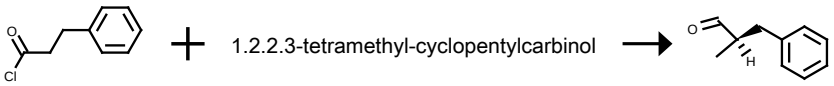
Yield	Conditions & References
	With hydrogen, [Rh(CO)2acac] **in** dichloromethane, Time= 16h, T= 120 °C , p= 15514.9Torr **Tijani, Jimoh; Ali, Bassam El**; Journal of Organometallic Chemistry; **vol.** 692; nb. 16; (2007); p. 3492 - 3497 View in Reaxys



Rx-ID: 17172140 View in Reaxys

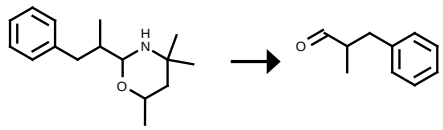
Yield	Conditions & References
	Reaction Steps: 3 1: 83 percent / Et_3N / tetrahydrofuran / 0.17 h 2: 95 percent / LiCl, diisopropylamine, n-BuLi / tetrahydrofuran; hexane / -78 °C

	3: LiAlH(OEt)3 / tetrahydrofuran; hexane / 1.2 h / 0 °C **With** n-butyllithium, LiAlH(OEt)3, triethylamine, diisopropylamine, lithium chloride **in** tetrahydrofuran, hexane **Myers, Andrew G.; Yang, Bryant H.; Chen, Hou; McKinstry, Lydia; Kopecky, David J.; Gleason, James L.**; Journal of the American Chemical Society; **vol.** 119; nb. 28; (1997); p. 6496 - 6511 View in Reaxys



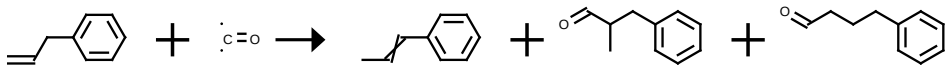
Rx-ID: 17172141 View in Reaxys

Yield	Conditions & References
	Reaction Steps: 3 1: 83 percent / Et_3N / tetrahydrofuran / 0.17 h 2: 95 percent / LiCl, diisopropylamine, n-BuLi / tetrahydrofuran; hexane / -78 °C 3: LiAlH(OEt)3 / tetrahydrofuran; hexane / 1.2 h / 0 °C **With** n-butyllithium, LiAlH(OEt)3, triethylamine, diisopropylamine, lithium chloride **in** tetrahydrofuran, hexane **Myers, Andrew G.; Yang, Bryant H.; Chen, Hou; McKinstry, Lydia; Kopecky, David J.; Gleason, James L.**; Journal of the American Chemical Society; **vol.** 119; nb. 28; (1997); p. 6496 - 6511 View in Reaxys



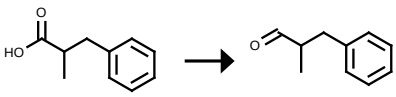
Rx-ID: 1633094 View in Reaxys

Yield	Conditions & References
78.2 %	**With** oxalic acid **Arjona, Odon; Perez-Ossorio, Rafael; Perez-Rubalcaba, Alfredo; Quiroga, Maria L.**; Journal of the Chemical Society, Perkin Transactions 2: Physical Organic Chemistry (1972-1999); (1981); p. 597 - 603 View in Reaxys



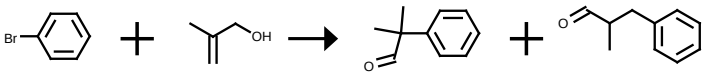
Rx-ID: 10021712 View in Reaxys

Yield	Conditions & References
	With hydrogen, 6-DPPon, [Rh(CO)2acac] **in** tetrahydrofuran, Time= 20h, T= 22 °C , p= 760Torr , Title compound not separated from byproducts **Seiche, Wolfgang; Schuschkowski, Alexander; Breit, Bernhard**; Advanced Synthesis and Catalysis; **vol.** 347; nb. 11-13; (2005); p. 1488 - 1494 View in Reaxys
	With [Rh(CO)2acac], phosphoric acid, hydrogen, 3,9-bis(2,4-di-tert-butylphenoxy)-2,4,8,10-tetra-oxa-3,9-diphosphaspiro[5.5]-undecane, methoxybenzene **in** dichloromethane, Time= 2h, T= 110 °C , p= 15514.9Torr , Autoclave **Alhaffar, Mouheddin; Suleiman, Rami; Ali, Bassam El**; Catalysis Communications; **vol.** 11; nb. 8; (2010); p. 778 - 782 View in Reaxys



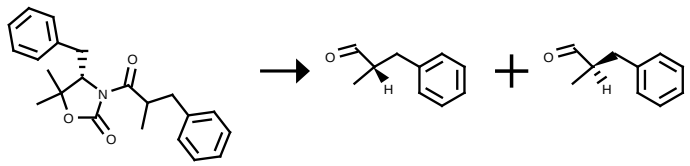
Rx-ID: 307928 View in Reaxys

Yield	Conditions & References
	With manganese(IV) oxide, formic acid, pumice stone-catalyst, T= 350 °C **Shinya**; Nippon Nogei Kagaku Kaishi; **vol.** 29; (1955); p. 91,92; Chem.Abstr.; (1959); p. 1227 View in Reaxys
	Reaction Steps: 2 1: LAH / diethyl ether / 20 °C 2: Dess-Martin periodinane / CH_2Cl_2 / 0 - 25 °C **With** lithium aluminium tetrahydride, Dess-Martin periodane **in** diethyl ether, dichloromethane **Zhang, Minsheng; Porte, Alex; Diamantidis, George; Sogi, Kimberly; Kubrak, Dennis; Resnick, Lynn; Mayer, Scott C.; Wang, Zheng; Kreft, Anthony F.; Harrison, Boyd L.**; Bioorganic and Medicinal Chemistry Letters; **vol.** 17; nb. 9; (2007); p. 2401 - 2403 View in Reaxys



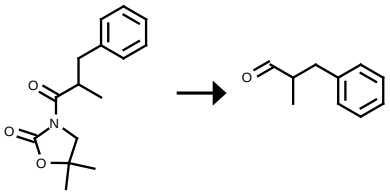
Rx-ID: 9375178 View in Reaxys

Yield	Conditions & References
	With tetrabutylammomium bromide, sodium formate, sodium hydrogencarbonate, Pd-benzothiazole carbene, Time= 4h, T= 130 °C , Heck reaction **Calo, Vincenzo; Nacci, Angelo; Monopoli, Antonio; Spinelli, Michele**; European Journal of Organic Chemistry; nb. 8; (2003); p. 1382 - 1385 View in Reaxys
	With tetrabutylammomium bromide, sodium hydrogencarbonate, palladium diacetate, Time= 1h, T= 130 °C , Heck arylation **Calo, Vincenzo; Nacci, Angelo; Monopoli, Antonio; Ferola, Valentina**; Journal of Organic Chemistry; **vol.** 72; nb. 7; (2007); p. 2596 - 2601 View in Reaxys



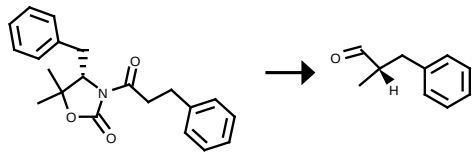
Rx-ID: 9477316 View in Reaxys

Yield	Conditions & References
	With diisobutylaluminium hydride **in** hexane, dichloromethane, Time= 0.333333h, T= -78 °C , Title compound not separated from byproducts. **Bull, Steven D.; Davies, Stephen G.; Nicholson, Rebecca L.; Sanganee, Hitesh J.; Smith, Andrew D.**; Organic and Biomolecular Chemistry; **vol.** 1; nb. 16; (2003); p. 2886 - 2899 View in Reaxys



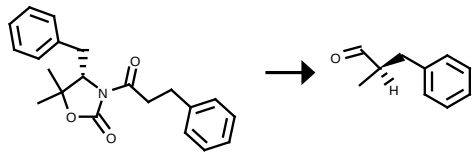
Rx-ID: 14179948 View in Reaxys

Yield	Conditions & References
	Reaction Steps: 2 1: 76 percent / DIBAL / CH_2Cl_2 / 0.17 h / -78 °C 2: 91 percent / aq. $NaHSO_3$; NaOH / 6 h / pH 9 **With** sodium hydroxide, diisobutylaluminium hydride, sodium hydrogensulfite **in** dichloromethane **Bach, Jordi; Blachere, Cecile; Bull, Steven D.; Davies, Stephen G.; Nicholson, Rebecca L.; Price, Paul D.; Sanganee, Hitesh J.; Smith, Andrew D.**; Organic and Biomolecular Chemistry; **vol.** 1; nb. 12; (2003); p. 2001 - 2010 View in Reaxys



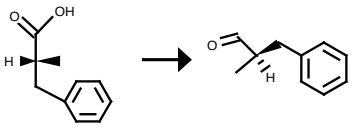
Rx-ID: 15600644 View in Reaxys

Yield	Conditions & References
	Reaction Steps: 2 1.1: LHMDS / tetrahydrofuran / -78 °C 1.2: 65 percent / tetrahydrofuran 2.1: DIBAL-H / CH_2Cl_2 / -78 °C **With** diisobutylaluminium hydride, lithium hexamethyldisilazane **in** tetrahydrofuran, dichloromethane, 1.1: Metallation / 1.2: Methylation / 2.1: Reduction **Bull, Steven D.; Davies, Stephen G.; Nicholson, Rebecca L.; Sanganee, Hitesh J.; Smith, Andrew D.**; Tetrahedron: Asymmetry; **vol.** 11; nb. 17; (2000); p. 3475 - 3480 View in Reaxys



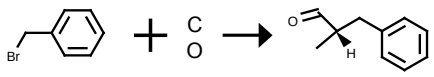
Rx-ID: 15600645 View in Reaxys

Yield	Conditions & References
	Reaction Steps: 2 1.1: LHMDS / tetrahydrofuran / -78 °C 1.2: 65 percent / tetrahydrofuran 2.1: DIBAL-H / CH_2Cl_2 / -78 °C **With** diisobutylaluminium hydride, lithium hexamethyldisilazane **in** tetrahydrofuran, dichloromethane, 1.1: Metallation / 1.2: Methylation / 2.1: Reduction **Bull, Steven D.; Davies, Stephen G.; Nicholson, Rebecca L.; Sanganee, Hitesh J.; Smith, Andrew D.**; Tetrahedron: Asymmetry; **vol.** 11; nb. 17; (2000); p. 3475 - 3480 View in Reaxys



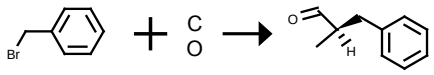
Rx-ID: 17075935 View in Reaxys

Yield	Conditions & References
	Reaction Steps: 2 2: 70 percent / DIBALH / toluene / -78 °C **With** diisobutylaluminium hydride **in** toluene **Simpson, Thomas J.; Smith, Robert W.; Westaway, Susan M.; Willis, Christine L.; Buss, Antony D.; et al.**; Tetrahedron Letters; **vol.** 38; nb. 30; (1997); p. 5367 - 5370 View in Reaxys



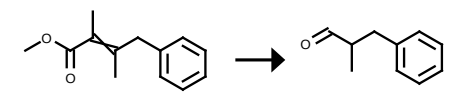
Rx-ID: 18188312 View in Reaxys

Yield	Conditions & References
	Reaction Steps: 2 1: 1.) LDA, LiCl / 1.) THF, from -78 to 23 deg C, 80 min, 2.) THF, 0 deg C, 0.2 h 2: LiAlH(OEt)3 **With** LiAlH(OEt)3, lithium chloride, lithium diisopropyl amide **Myers, Andrew G.; Yang, Bryant H.; Chen, Hou; Gleason, James L.**; Journal of the American Chemical Society; **vol.** 116; nb. 20; (1994); p. 9361 - 9362 View in Reaxys



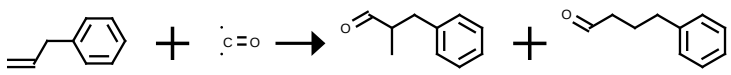
Rx-ID: 18188313 View in Reaxys

Yield	Conditions & References
	Reaction Steps: 2 1: 1.) LDA, LiCl / 1.) THF, from -78 to 23 deg C, 80 min, 2.) THF, 0 deg C, 0.2 h 2: LiAlH(OEt)3 **With** LiAlH(OEt)3, lithium chloride, lithium diisopropyl amide **Myers, Andrew G.; Yang, Bryant H.; Chen, Hou; Gleason, James L.**; Journal of the American Chemical Society; **vol.** 116; nb. 20; (1994); p. 9361 - 9362 View in Reaxys



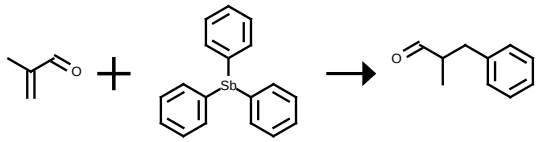
Rx-ID: 1095241 View in Reaxys

Yield	Conditions & References
	With potassium carbonate **in** methanol, water **Scriabine,I.**; Bulletin de la Societe Chimique de France; (1961); p. 1194 - 1198 View in Reaxys



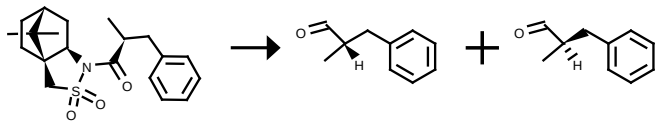
Rx-ID: 4336287 View in Reaxys

Yield	Conditions & References
	With [Rh(CO)2acac], triphenylphosphine-3,3',3''-trisulfonic acid trisodium salt, heptakis(2,6-di-O-methyl)-beta-cyclodextrin, hydrogen **in** water, Time= 2h, T= 80 °C , p= 38000Torr , stainless steel autoclave, Yield given. Yields of byproduct given. Title compound not separated from byproducts **Monflier, Eric; Tilloy, Sebastien; Fremy, Georges; Castanet, Yves; Mortreux, Andre**; Tetrahedron Letters; **vol.** 36; nb. 52; (1995); p. 9481 - 9484 View in Reaxys



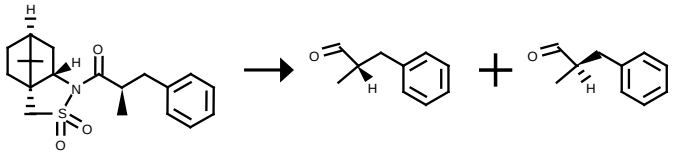
Rx-ID: 4511027 View in Reaxys

Yield	Conditions & References
35 %	**With** palladium diacetate, silver(I) acetate, $SbCl_3$, acetic acid, Time= 24h, T= 25 °C **Cho, Chan Sik; Motofusa, Shin-ichi; Ohe, Kouichi; Uemura, Sakae**; Bulletin of the Chemical Society of Japan; **vol.** 69; nb. 8; (1996); p. 2341 - 2348 View in Reaxys



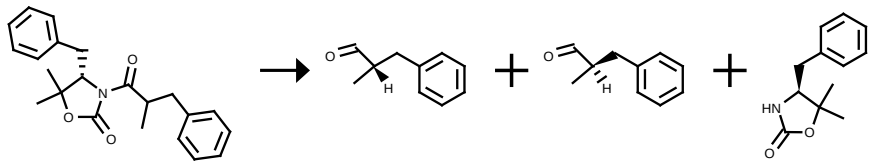
Rx-ID: 4778587 View in Reaxys

Yield	Conditions & References
	With diisobutylaluminium hydride **in** dichloromethane, Time= 2h, T= -78 °C , Yield given. Yields of byproduct given **Oppolzer, Wolfgang; Darcel, Christophe; Rochet, Patrick; Rosset, Stephane; Brabander, Jef De**; Helvetica Chimica Acta; **vol.** 80; nb. 5; (1997); p. 1319 - 1337 View in Reaxys



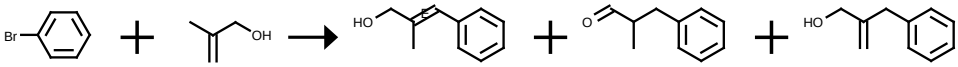
Rx-ID: 4809265 View in Reaxys

Yield	Conditions & References
	With diisobutylaluminium hydride **in** dichloromethane, Time= 2h, T= -78 °C , Yield given. Yields of byproduct given **Oppolzer, Wolfgang; Darcel, Christophe; Rochet, Patrick; Rosset, Stephane; Brabander, Jef De**; Helvetica Chimica Acta; **vol.** 80; nb. 5; (1997); p. 1319 - 1337 View in Reaxys



Rx-ID: 8704760 View in Reaxys

Yield	Conditions & References
	With diisobutylaluminium hydride **in** dichloromethane, T= -78 °C , Reduction, Title compound not separated from by-products **Bull, Steven D.; Davies, Stephen G.; Nicholson, Rebecca L.; Sanganee, Hitesh J.; Smith, Andrew D.**; Tetrahedron: Asymmetry; **vol.** 11; nb. 17; (2000); p. 3475 - 3480 View in Reaxys

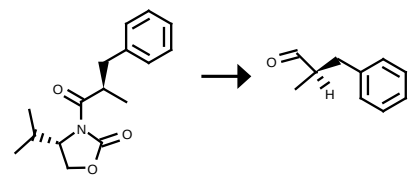


Rx-ID: 10553243 View in Reaxys

Yield	Conditions & References
	With tetra-n-butylammonium acetate, palladium diacetate, Time= 0.5h, T= 70 °C , Heck arylation **Calo, Vincenzo; Nacci, Angelo; Monopoli, Antonio; Ferola, Valentina**; Journal of Organic Chemistry; **vol.** 72; nb. 7; (2007); p. 2596 - 2601 View in Reaxys

Rx-ID: 11619168 View in Reaxys

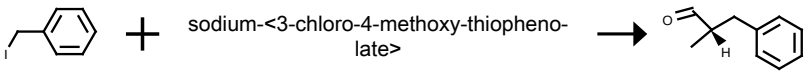
Yield	Conditions & References
	Reaction Steps: 3 1: LDA / tetrahydrofuran / -78 °C 2: LAH / diethyl ether / 20 °C 3: Dess-Martin periodinane / CH_2Cl_2 / 0 - 25 °C **With** lithium aluminium tetrahydride, Dess-Martin periodane, lithium diisopropyl amide **in** tetrahydrofuran, diethyl ether, dichloromethane **Zhang, Minsheng; Porte, Alex; Diamantidis, George; Sogi, Kimberly; Kubrak, Dennis; Resnick, Lynn; Mayer, Scott C.; Wang, Zheng; Kreft, Anthony F.; Harrison, Boyd L.**; Bioorganic and Medicinal Chemistry Letters; **vol.** 17; nb. 9; (2007); p. 2401 - 2403 View in Reaxys



Rx-ID: 17083850 View in Reaxys

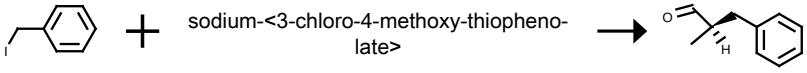
Yield	Conditions & References
	Reaction Steps: 3 1: LiOH, H_2O_2 3: 70 percent / DIBALH / toluene / -78 °C **With** lithium hydroxide, dihydrogen peroxide, diisobutylaluminium hydride **in** toluene

	Simpson, Thomas J.; Smith, Robert W.; Westaway, Susan M.; Willis, Christine L.; Buss, Antony D.; et al.; Tetrahedron Letters; **vol.** 38; nb. 30; (1997); p. 5367 - 5370 View in Reaxys



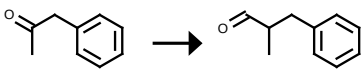
Rx-ID: 17212073 View in Reaxys

Yield	Conditions & References
	Reaction Steps: 2 1: 89 percent / 1.) BuLi; 2.) HMPA / tetrahydrofuran; hexane / -70 - -50 °C 2: DIBAL / CH_2Cl_2 / 2 h / -78 °C **With** N,N,N',N',N'',N''-hexamethylphosphoric triamide, n-butyllithium, diisobutylaluminium hydride **in** tetrahydrofuran, hexane, dichloromethane **Oppolzer, Wolfgang; Darcel, Christophe; Rochet, Patrick; Rosset, Stephane; Brabander, Jef De**; Helvetica Chimica Acta; **vol.** 80; nb. 5; (1997); p. 1319 - 1337 View in Reaxys



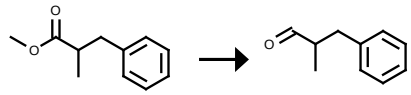
Rx-ID: 17212074 View in Reaxys

Yield	Conditions & References
	Reaction Steps: 2 1: 89 percent / 1.) BuLi; 2.) HMPA / tetrahydrofuran; hexane / -70 - -50 °C 2: DIBAL / CH_2Cl_2 / 2 h / -78 °C **With** N,N,N',N',N'',N''-hexamethylphosphoric triamide, n-butyllithium, diisobutylaluminium hydride **in** tetrahydrofuran, hexane, dichloromethane **Oppolzer, Wolfgang; Darcel, Christophe; Rochet, Patrick; Rosset, Stephane; Brabander, Jef De**; Helvetica Chimica Acta; **vol.** 80; nb. 5; (1997); p. 1319 - 1337 View in Reaxys



Rx-ID: 20781320 View in Reaxys

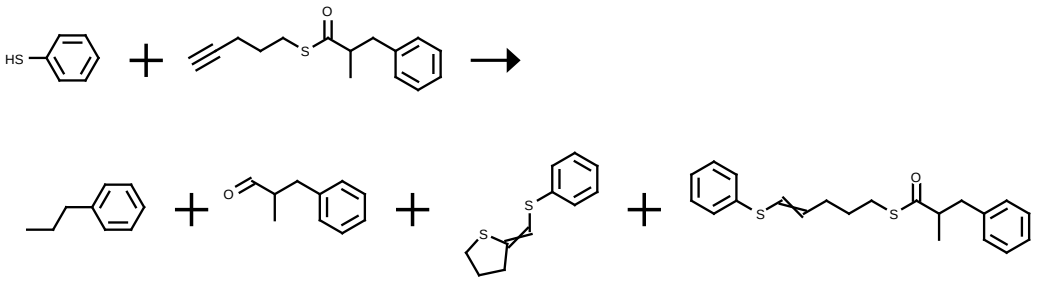
Yield	Conditions & References
	Reaction Steps: 2 1: 78 percent / butyllithium / diethyl ether / -70 °C 2: 79 percent / HCOOH / 3 h / 100 °C **With** n-butyllithium, formic acid **in** diethyl ether **Duchene, Alain; Mouko-Mpegna, David; Quintard, Jean-Paul**; Bulletin de la Societe Chimique de France; nb. 5; (1985); p. 787 - 793 View in Reaxys



Rx-ID: 20788561 View in Reaxys

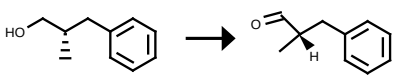
Yield	Conditions & References
	Reaction Steps: 2

	1: 95 percent / $LiAlH_4$ / tetrahydrofuran / 2 h / Heating 2: 82 percent / CrO_3 **With** chromium(VI) oxide, lithium aluminium tetrahydride **in** tetrahydrofuran **Arjona, Odon; Perez-Ossorio, Rafael; Perez-Rubalcaba, Alfredo; Quiroga, Maria L.**; Journal of the Chemical Society, Perkin Transactions 2: Physical Organic Chemistry (1972-1999); (1981); p. 597 - 603 View in Reaxys



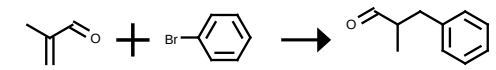
Rx-ID: 9600151 View in Reaxys

Yield	Conditions & References
	With 2,2'-azo-bisisobutyronitrile **in** benzene, T= 80 °C **Benati, Luisa; Leardini, Rino; Minozzi, Matteo; Nanni, Daniele; Scialpi, Rosanna; Spagnolo, Piero; Zanardi, Giuseppe**; Synlett; nb. 6; (2004); p. 985 - 990 View in Reaxys



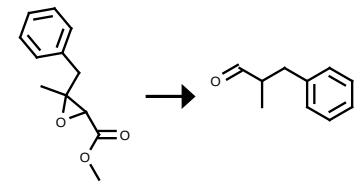
Rx-ID: 9780110 View in Reaxys

Yield	Conditions & References
	With oxalyl dichloride, dimethyl sulfoxide, Swern oxidation **Abate, Agnese; Brenna, Elisabetta; Fuganti, Claudio; Gatti, Francesco G.; Giovenzana, Tommaso; Malpezzi, Luciana; Serra, Stefano**; Journal of Organic Chemistry; **vol.** 70; nb. 4; (2005); p. 1281 - 1290 View in Reaxys



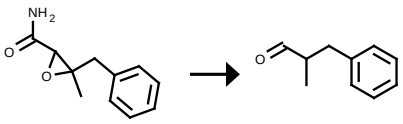
Rx-ID: 1695243 View in Reaxys

Yield	Conditions & References
	With bis(acetylacetonate)nickel(II), lithium, zinc dibromide, 1.) THF, sonication, 30 min, 2.) THF, -40 deg C, 55 min, Yield given. Multistep reaction **Petrier, Christian; Barbosa, Jayne C. de Souza; Dupuy, Claude; Luche, Jean-Louis**; Journal of Organic Chemistry; **vol.** 50; nb. 26; (1985); p. 5761 - 5765 View in Reaxys



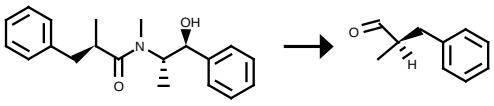
Rx-ID: 4385241 View in Reaxys

Yield	Conditions & References
	With sodium hydroxide **Schwenker,G.**; Synthesis; (1975); p. 496 - 499 View in Reaxys



Rx-ID: 4385594 View in Reaxys

Yield	Conditions & References
	With sodium hydroxide **Schwenker,G.**; Synthesis; (1975); p. 496 - 499 View in Reaxys

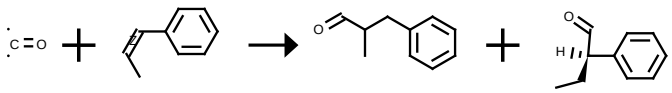


Rx-ID: 4789099 View in Reaxys

Yield	Conditions & References
	With hydrogenchloride, LiAlH(OEt)3, 1.) hexane/THF, -78 deg C to 0 deg C, 1 h, 2.) TFA, 20 deg C, 5 min, Yield given. Multistep reaction **Paterson, Ian; Fessner, Klaus; Finlay, M. Raymond V.**; Tetrahedron Letters; **vol.** 38; nb. 24; (1997); p. 4301 - 4304 View in Reaxys

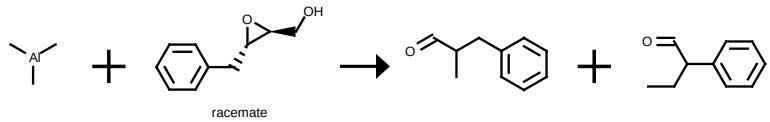
Rx-ID: 22518039 View in Reaxys

Yield	Conditions & References
	Reaction Steps: 2 1: $SOCl_2$ 2: (i) Mg, Et_2O, (ii) aq. HCl **With** thionyl chloride **Urry,W.H. et al.**; Journal of Organic Chemistry; **vol.** 29; nb. 7; (1964); p. 1663 - 1669 View in Reaxys



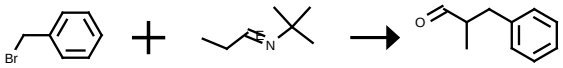
Rx-ID: 28332102 View in Reaxys

Yield	Conditions & References
	With 2,2',2",2'"-(1,2-phenylenebis((1R,3R)-tetrahydro-5,8-dioxo-1H-(1,2,4)diazaphospholo(1,2-a)pyrida-zine-2,1,3(3H)-triyl))tetrakis(N-(1S)-1-phenylethyl)-benzamide, Rh(acac)2(CO)2, hydrogen, Time= 12h, T= 40 °C , p= 3878.71Torr , optical yield given as percent ee, enantioselective reaction **Watkins, Avery L.; Hashiguchi, Brian G.; Landis, Clark R.**; Organic Letters; **vol.** 10; nb. 20; (2008); p. 4553 - 4556 View in Reaxys



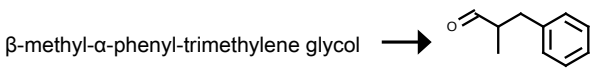
Rx-ID: 2251316 View in Reaxys

Yield	Conditions & References
	With sodium periodate, 1.) $Cl(CH_2)2Cl$-toluene, 83 deg C, Yield given. Multistep reaction. Yields of byproduct given. Title compound not separated from byproducts **Lentz, Nelsen L.; Peet, Norton P.**; Tetrahedron Letters; **vol.** 31; nb. 6; (1990); p. 811 - 814 View in Reaxys
	With sodium periodate, 1.) CH_2Cl_2-hexane, -78 deg C, Yield given. Multistep reaction. Yields of byproduct given. Title compound not separated from byproducts **Lentz, Nelsen L.; Peet, Norton P.**; Tetrahedron Letters; **vol.** 31; nb. 6; (1990); p. 811 - 814 View in Reaxys



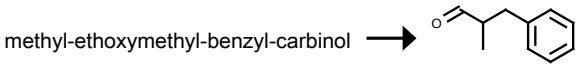
Rx-ID: 2396910 View in Reaxys

Yield	Conditions & References
	Multistep reaction **Maruoka, Keiji; Itoh, Takayuki; Sakurai, Minoru; Nonoshita, Katsumasa; Yamamoto, Hisashi**; Journal of the American Chemical Society; **vol.** 110; (1988); p. 3588 - 3597 View in Reaxys



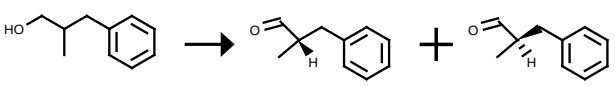
Rx-ID: 7247304 View in Reaxys

Yield	Conditions & References
	With sulfuric acid, T= 120 - 130 °C **Hackhofer**; Monatshefte fuer Chemie; **vol.** 22; (1901); p. 98 View in Reaxys



Rx-ID: 7247308 View in Reaxys

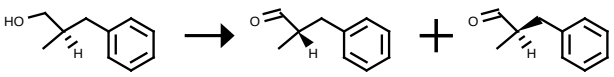
Yield	Conditions & References
	With acid **Patent**; **Behal; Sommelet**; DE177614 View in Reaxys



Rx-ID: 9070753 View in Reaxys

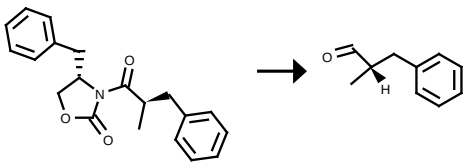
Yield	Conditions & References
	With 2,2,6,6-tetramethyl-piperidine-N-oxyl, sodium hypochlorite, potassium bromide

	Tyrrell, Elizabeth; Skinner, George A.; Janes, John; Milsom, Greig; Synlett; nb. 7; (2002); p. 1073 - 1076 View in Reaxys



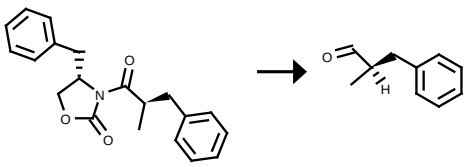
Rx-ID: 9073363 View in Reaxys

Yield	Conditions & References
	With 2,2,6,6-tetramethyl-piperidine-N-oxyl, sodium hypochlorite, potassium bromide, Title compound not separated from byproducts **Tyrrell, Elizabeth; Skinner, George A.; Janes, John; Milsom, Greig**; Synlett; nb. 7; (2002); p. 1073 - 1076 View in Reaxys



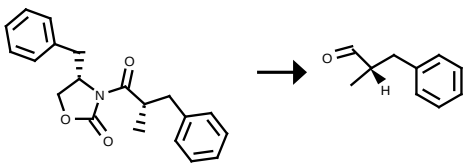
Rx-ID: 14744550 View in Reaxys

Yield	Conditions & References
	Reaction Steps: 2 1: 70 percent / $LiAlH_4$ 2: NaOCl; TEMPO; KBr **With** 2,2,6,6-tetramethyl-piperidine-N-oxyl, sodium hypochlorite, lithium aluminium tetrahydride, potassium bromide **Tyrrell, Elizabeth; Skinner, George A.; Janes, John; Milsom, Greig**; Synlett; nb. 7; (2002); p. 1073 - 1076 View in Reaxys



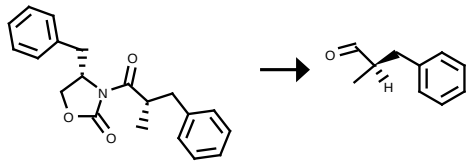
Rx-ID: 14744551 View in Reaxys

Yield	Conditions & References
	Reaction Steps: 2 1: 70 percent / $LiAlH_4$ 2: NaOCl; TEMPO; KBr **With** 2,2,6,6-tetramethyl-piperidine-N-oxyl, sodium hypochlorite, lithium aluminium tetrahydride, potassium bromide **Tyrrell, Elizabeth; Skinner, George A.; Janes, John; Milsom, Greig**; Synlett; nb. 7; (2002); p. 1073 - 1076 View in Reaxys



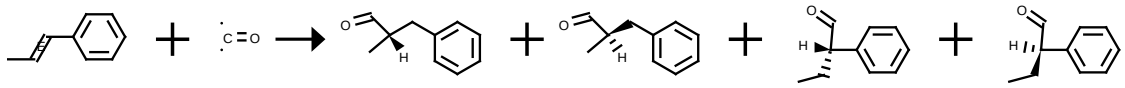
Rx-ID: 14749569 View in Reaxys

Yield	Conditions & References
	Reaction Steps: 2 1: $LiAlH_4$ 2: NaOCl; TEMPO; KBr **With** 2,2,6,6-tetramethyl-piperidine-N-oxyl, sodium hypochlorite, lithium aluminium tetrahydride, potassium bromide **Tyrrell, Elizabeth; Skinner, George A.; Janes, John; Milsom, Greig**; Synlett; nb. 7; (2002); p. 1073 - 1076 View in Reaxys



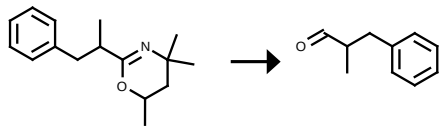
Rx-ID: 14749570 View in Reaxys

Yield	Conditions & References
	Reaction Steps: 2 1: $LiAlH_4$ 2: NaOCl; TEMPO; KBr **With** 2,2,6,6-tetramethyl-piperidine-N-oxyl, sodium hypochlorite, lithium aluminium tetrahydride, potassium bromide **Tyrrell, Elizabeth; Skinner, George A.; Janes, John; Milsom, Greig**; Synlett; nb. 7; (2002); p. 1073 - 1076 View in Reaxys



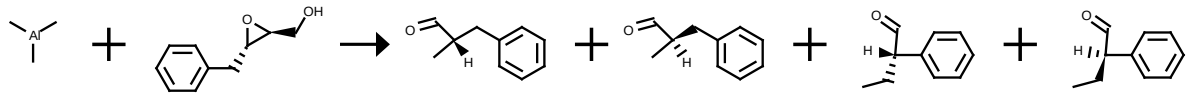
Rx-ID: 28332098 View in Reaxys

Yield	Conditions & References
	With Rh(acac)2(CO)2, $C_{66}H_{70}N_4O_7P_2$, hydrogen, Time= 12h, T= 40 °C , p= 3878.71Torr , optical yield given as percent ee **Watkins, Avery L.; Hashiguchi, Brian G.; Landis, Clark R.**; Organic Letters; **vol.** 10; nb. 20; (2008); p. 4553 - 4556 View in Reaxys



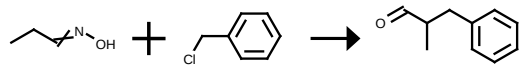
Rx-ID: 20813536 View in Reaxys

Yield	Conditions & References
	Reaction Steps: 2 1: 93.1 percent / $NaBH_4$ 2: 78.2 percent / oxalic acid **With** sodium tetrahydroborate, oxalic acid **Arjona, Odon; Perez-Ossorio, Rafael; Perez-Rubalcaba, Alfredo; Quiroga, Maria L.**; Journal of the Chemical Society, Perkin Transactions 2: Physical Organic Chemistry (1972-1999); (1981); p. 597 - 603 View in Reaxys



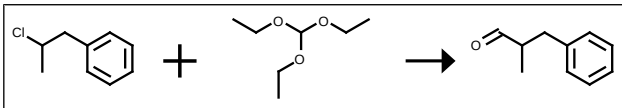
Rx-ID: 2251315 View in Reaxys

Yield	Conditions & References
	With sodium periodate, Multistep reaction. Title compound not separated from byproducts **Lentz, Nelsen L.; Peet, Norton P.**; Tetrahedron Letters; **vol.** 31; nb. 6; (1990); p. 811 - 814 View in Reaxys



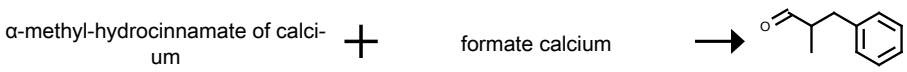
Rx-ID: 1202457 View in Reaxys

Yield	Conditions & References
	(i) nBuLi, THF, hexane, (ii) /BRN= 471308/, (iii) $TiCl_3$, Multistep reaction **Kofron,W.G.; Yeh,M.-K.**; Journal of Organic Chemistry; **vol.** 41; nb. 3; (1976); p. 439 - 442 View in Reaxys



Rx-ID: 1303111 View in Reaxys

Yield	Conditions & References
	(i) Mg, Et_2O, (ii) aq. HCl, Multistep reaction **Urry,W.H. et al.**; Journal of Organic Chemistry; **vol.** 29; nb. 7; (1964); p. 1663 - 1669 View in Reaxys

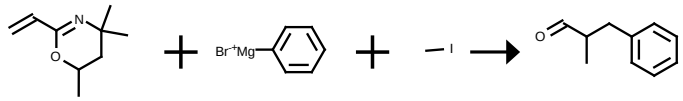


Rx-ID: 7247306 View in Reaxys

Yield	Conditions & References
	bei der Destillation **v. Miller; Rohde**; Chemische Berichte; **vol.** 23; (1890); p. 1080 View in Reaxys **Errera**; Gazzetta Chimica Italiana; **vol.** 21 I; (1891); p. 98 View in Reaxys

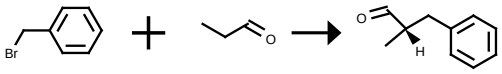
Rx-ID: 7247307 View in Reaxys

Yield	Conditions & References
	T= 140 °C , im Vakuum **Darzens**; Comptes Rendus Hebdomadaires des Seances de l'Academie des Sciences; **vol.** 139; (1904); p. 1216; Chem. Zentralbl.; **vol.** 77; nb. II; (1906); p. 1297,1298 View in Reaxys **Patent**; **Darzens**; DE174239 View in Reaxys



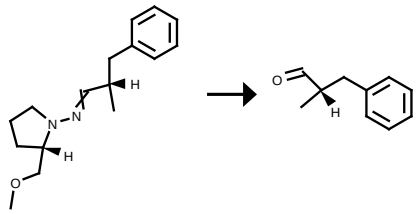
Rx-ID: 942981 View in Reaxys

Yield	Conditions & References
	Multistep reaction **Meyers,A.I. et al.**; Journal of Organic Chemistry; **vol.** 38; (1973); p. 36 - 56 View in Reaxys



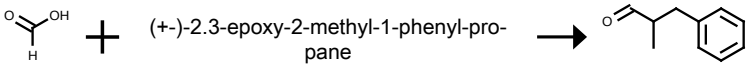
Rx-ID: 1177842 View in Reaxys

Yield	Conditions & References
	Multistep reaction **Enders,D.; Eichenauer,H.**; Tetrahedron Letters; (1977); p. 191 - 194 View in Reaxys



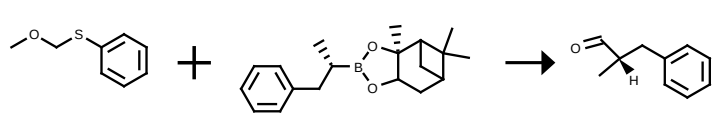
Rx-ID: 1330612 View in Reaxys

Yield	Conditions & References
	(i) MeI, (ii) aq. HCl, Multistep reaction **Enders,D.; Eichenauer,H.**; Chemische Berichte; **vol.** 112; (1979); p. 2933 - 2960 View in Reaxys



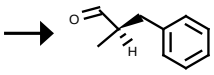
Rx-ID: 7247305 View in Reaxys

Yield	Conditions & References
	Ramart-Lucas; Labaune; Annales de Chimie (Cachan, France); **vol.** <10> 16; (1931); p. 276,298 View in Reaxys



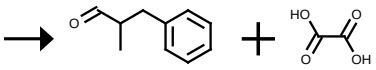
Rx-ID: 2115136 View in Reaxys

Yield	Conditions & References
	Yield given. Multistep reaction **Rangaishenvi, Milind V.; Singaram, Bakthan; Brown, Herbert C.**; Journal of Organic Chemistry; **vol.** 56; nb. 10; (1991); p. 3286 - 3294 View in Reaxys



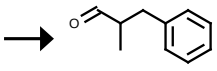
Rx-ID: 7625117 View in Reaxys

Yield	Conditions & References
77%	Example Name 30 Example Title (R)-α-methyl benzenepropanal EXAMPLE 30 STR58 (R)-α-methyl benzenepropanal A dry 100 mL Schlenk flask equipped with a magnetic stirrer was charged with lithium aluminum hydride (0.444 g, 11.11 mmol, 2.3 equiv) in a nitrogen-filled drybox. The hydride was suspended in hexanes (26 mL) and cooled to 0.deg. C. Ethyl acetate (1.59 mL, 16.34 mmol, 3.38 equiv) was added by syringe pump over a 1.5 hour period, then the hydride suspension was cooled to -78.deg. C. [1S-[1R*(S*),2R*]]-N-(2-hydroxy-1-methyl-2-phenylethyl)-N,2-dimethyl benzenepropionamide (1.505 g, 4.83 mmol, 1.0 equiv) was added as a solution in tetrahydrofuran (17 mL), and the reaction warmed to 0.deg. C. The reaction was stirred for 30 minutes, and quenched by cannula transfer into a 23.deg. C. solution of 1N HCl (60 mL) and trifluoroacetic acid (3.7 mL, 48 mmol, 10 equiv). This solution was stirred for 5 minutes, diluted with 1N HCl (100 mL), and the layers were separated. The aqueous layer was extracted with ethyl acetate (3*20 mL), and the combined organic extracts were basified with saturated sodium bicarbonate (35 mL). The flocculent emulsion was filtered through celite loaded onto a coarse frit, and the aqueous layer was removed. The aqueous layer was extracted once with ethyl acetate (10 mL), and the combined organic extracts were dried over sodium sulfate, filtered, and concentrated. Flash chromatography (10percent ethyl acetate/hexanes) afforded the aldehyde (0.551 g, 77percent yield) as a colorless oil. Analysis of the derived Mosher ester indicated an enantiomeric purity of 93percent ee: 1H NMR (300 MHz, C6D6) δ9.29 (d, 1H, J=1.2 Hz), 6.8-7.12 (m, 5H), 2.72 (dd, 1H, J=13.2 Hz, 5.4 Hz), 2.0-2.2 (m, 2H), 0.69 (d, 3H, J=6.9 Hz); 13C NMR (75.5 MHz, CDCl3) δ204.3, 138.7, 128.9, 128.4, 126.3, 48.0, 36.5, 13.1. FTIR (neat film) cm-1 3028 (m), 2971 (m), 1932 (m), 2814 (w), 2716 (w), 1723 (s), 1496 (m), 1454 (m), 742 (m), 701 (s). **Patent**; **California Institute of Technology**; US5488131; (1996); (A1) English View in Reaxys
	Davenport et al.; Journal of the American Chemical Society; **vol.** 101; (1979); p. 5654,5658 View in Reaxys



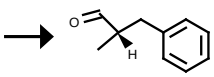
Rx-ID: 25283246 View in Reaxys

Yield	Conditions & References
66%	Example Name IX.c Example Title (c) (c) Oxalic acid cleavage to the propanal The crude tetrahydro-1,3-oxazine (13.1 g) is added dropwise to a boiling oxalic acid solution (33.4 g per 150 ml water) and the aldehyde collected in the steam distillate. Ethereal extraction (three 50 ml portions) of the distillate is followed by drying over sodium sulfate. Removal of the solvent yields 6.0 g (77percent) of 2-methyl-3-phenyl-propanal in overall yield of 66percent. **Patent**; **Board of Supervisors of Louisiana State University and Agricultural and Mechanical College**; US4131623; (1978); (A1) English View in Reaxys



Rx-ID: 7247303 View in Reaxys

Yield	Conditions & References
	Nagase; Nippon Kagaku Zasshi; **vol.** 81; (1960); p. 938,941; Chem.Abstr.; **vol.** 56; nb. 1441; (1962) View in Reaxys **Comins; Meyers**; Synthesis; (1978); p. 403 View in Reaxys **Patent**; **Louisiana Univ.**; US4131623; (1978); Chem.Abstr.; **vol.** 90; nb. 103418 View in Reaxys **Patent**; **Rhone-Poulenc**; DE1145161; (1963); Chem.Abstr.; **vol.** 59; nb. 9900d; (1963) View in Reaxys **Patent**; **Simes S.p.A.**; BE629257; (1962); Chem.Abstr.; **vol.** 63; nb. 6918c; (1965) View in Reaxys **Yvernault; Mazet**; Comptes Rendus des Seances de l'Academie des Sciences, Serie C: Sciences Chimiques; **vol.** 270; (1970); p. 430 View in Reaxys **Kovelesky; Meyers**; Organic Preparations and Procedures International; **vol.** 1; (1969); p. 213 View in Reaxys **Kikukawa; Matsuda**; Chemistry Letters; (1977); p. 159,160 View in Reaxys **Abe; Yasukawa**; Yuki Gosei Kagaku Kyokaishi; **vol.** 22; (1964); p. 209; Chem.Abstr.; **vol.** 60; nb. 13175 View in Reaxys **Botteghi et al.**; Journal of Organometallic Chemistry; **vol.** 161; (1978); p. 197,199,203 View in Reaxys **Heck**; Organic Syntheses; **vol.** 51; (1971); p. 17,19 View in Reaxys **Chalk; Magennis**; Journal of Organic Chemistry; **vol.** 41; (1976); p. 273,274,275,276,278 View in Reaxys **Moss; Dolling**; Journal of the American Chemical Society; **vol.** 93; (1971); p. 954,955 View in Reaxys **Patent**; **Soda Aromatic Co.**; NL6502482; (1964); Chem.Abstr.; **vol.** 64; nb. 19497g; (1966) View in Reaxys **Heck**; Journal of the American Chemical Society; **vol.** 90; (1968); p. 5538 View in Reaxys **Desaulles; Fleury**; Bulletin de la Societe Chimique de France; (1967); p. 1849 View in Reaxys



Rx-ID: 7625116 View in Reaxys

Yield	Conditions & References
	Davenport et al.; Journal of the American Chemical Society; **vol.** 101; (1979); p. 5654,5658 View in Reaxys