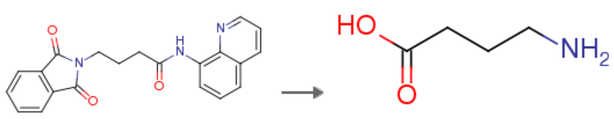
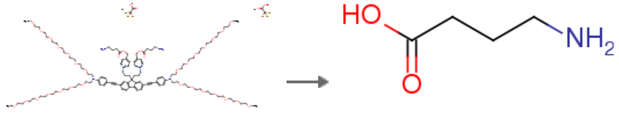
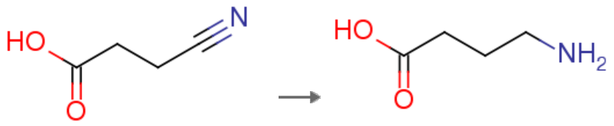
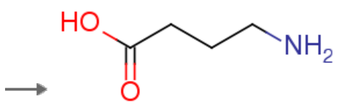
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Query → 1 substances → 102 reactions → 102 reactions sorted by Publication Year

Reactions (102) | Substances (2) | Citations (143)

	Yield	Conditions	References
1	 Synthesize Find similar Synthesize Find similar		Rx-ID: 42684813 Find similar reactions
	91%	**With** hydrogenchloride **in** water T=110°C; 16 h;	**Gurak, John A.; Yang, Kin S.; Liu, Zhen; Engle, Keary M.** Journal of the American Chemical Society, **2016** , vol. 138, # 18 p. 5805 - 5808 Title/Abstract Full Text View citing articles Show Details
2	 Synthesize Synthesize		Rx-ID: 40648488

		Find similar Find similar Find similar reactions	
	> 95 %Spectr.	**in** water UV-irradiation; Quantum yield;	**Korzycka, Karolina A.; Bennett, Philip M.; Cueto-Diaz, Eduardo Jose; Wicks, Geoffrey; Drobizhev, Mikhail; Blanchard-Desce, Mireille; Rebane, Aleksander; Anderson, Harry L.** Chemical Science, **2015** , vol. 6, # 4 p. 2419 - 2426 Title/Abstract Full Text View citing articles Show Details
3	 Synthesize Find similar Synthesize Find similar Rx-ID: 229496 Find similar reactions		
	80%	**With** platinum(IV) oxide; hydrogen Acidic conditions;	**He, Dian; Ma, Jing; Shi, Xiuxiao; Zhao, Chunyan; Hou, Meng; Guo, Qingxin; Ma, Shangxian; Li, Xiaojun; Zhao, Peicheng; Liu, Wenhu; Yang, Zhuqing; Mou, Jianping; Song, Pengfei; Zhang, Yang; Li, Jing** Chemical and Pharmaceutical Bulletin, **2014** , vol. 62, # 10 p. 967 - 978 Title/Abstract Full Text View citing articles Show Details
		With ethanol; sodium	**Dakin** Biochemical Journal, **1917** , vol. 11, p. 84 Full Text Show Details
		With sodium tetrahydroborate; nickel dichloride **in** DMFA T=20°C;	**Laval, Gilles; Golding, Bernard T.** Synlett, **2003** , # 4 p. 542 - 546 Title/Abstract Full Text View citing articles Show Details
4	 Synthesize Find similar Rx-ID: 6188521 Find similar reactions		
	1.9%		**Hatakeda, Kiyotaka; Sato, Osamu; Kanakubo, Mitsuhiro; Ikushima, Yutaka; Torii, Kazuo** **Patent:** US2004/162434 A1, **2004** ; **Location in patent:** Page 8-9 ; Title/Abstract Full Text Show Details
		Zur Darstellung nach Schotten;	**Schotten** Chemische Berichte, **1883** , vol. 16, p. 644 Full Text Show Details **Abderhalden; Kautzsch** Hoppe-Seyler's Zeitschrift fuer Physiologische Chemie, **1912** , vol. 81, p. 297 Full Text Show Details
			Colonge,J.; Pouchol,J.-M. Bulletin de la Societe Chimique de France, **1962** , p. 598 - 603 Full Text View citing articles Show Details

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Hide Details

Hide Experimental Procedure

Tufts University
Patent: US2003/162754 A1, **2003** ;

Title/Abstract Full Text Show Details

, wherein the compound is selected from the group consisting of:
4-aminobutanoic acid (GABA),
4-amino-3-(4-chlorophenyl)butanoic acid (baclofen),
4-amino-3-phenylbutanoic acid,
4-amino-3-hydroxybutanoic acid,
4-amino-3-(4-chlorophenyl)-3-hydroxyphenylbutanoic acid,
4-amino-3-(thien-2-yl)butanoic acid,
4-amino-3-(5-chlorothien-2-yl)butanoic acid,
4-amino-3-(5-bromothien-2-yl)butanoic acid,
4-amino-3-(5-methylthien-2-yl)butanoic acid,
...

	Hide Experimental Procedure	**Alsters, Paul; Bouttemy, Sabine; Schmieder-Van De Vondervoort, Elisabeth; Padron Carillo, Jose** **Patent:** US2003/45751 A1, **2003** ; Title/Abstract Full Text Show Details

1:4-Aminobutanoic Acid
EXAMPLE 1
4-Aminobutanoic Acid
0.47 g of sodium periodate $NaIO_4$ ($2.2*10^{-3}$ mol), 1.6 mg of sodium dichromate $Na_2Cr_2O_7$ ($5.4*10^{-6}$ mol) and 0.11 g of sulfuric acid H_2SO_4 ($1.1*10^{-3}$ mol) were dissolved in 3 ml of water.
To this solution were added 94.5 mg of 4-amino-l-butanol ($1.06*10^{-3}$ mol) whereupon the reaction mixture was stirred vigorously for 17 h at 20° C.
After 17 h the reaction solution was analyzed by ^1H NMR.
Comparison with the NMR spectrum of commercially available 4-aminobutanoic acid showed a conversion rate to 4-aminobutanoic acid of 94percent.
The ratio of alcohol to carboxylic acid was therefore 6:94.

	Hide Experimental Procedure	**Lion Bioscience AG** **Patent:** US6458789 B1, **2002** ; Title/Abstract Full Text Show Details

..., 0.4 M) (listed below), BtCH2CN (0.5 mmol, 10 eq, 0.4 M) and MeOEtOH (1.25 mL) were added to a glass bottle and mixed until completely dissolved.
...
2-METHOXYETHYLAMINE
ISOAMYLAMINE
3-ISOPROPOXYPROPYLAMINE
4-AMINOBUTYRIC ACID
HEXYLAMINE
8-AMINOCAPRYLIC ACID
N-(3-AMINOPROPYL)IMIDAZOLE
...

	Hide Experimental Procedure	**Lion Bioscience AG** **Patent:** US6458789 B1, **2002** ; Title/Abstract Full Text Show Details

The procedure is similar to step 3 of Example 2 using the following six amino acids:
TRANS-4-(AMINOMETHYL)CYCLOHEXANECARBOXYLIC ACID
4-AMINOBUTYRIC ACID
8-AMINOCAPRYLIC ACID
3-AMINOCYCLOHEXANECARBOXYLIC ACID
PROLINE
B-ALANINE

	Hide Experimental Procedure	**Schmitz, Robert A.** **Patent:** US6299892 B1, **2001** ; Title/Abstract Full Text Show Details

A. Amides Derived from the Following Monoaminocarboxylic Acids
...
14. Thyroxine
15. Tyrosine
16. Valine
17. β-Alanine
18. 4-Aminobutyric Acid
Anthranilic Acid
20. 4-Aminobenzoic Acid
21. 3-Amino-2-naphthoic Acid
...

	Hide Experimental Procedure	**Merck and Co., Inc.** **Patent:** US5874403 A1, **1999** ; Title/Abstract Full Text Show Details

XXVII:4-Aminobutyric Acid Conjugate
4-Aminobutyric Acid Conjugate
Mass spectrum: (FAB) 1143 (M+Li)
^{1} H NMR (400 MHz, CD_3 OD): δ 7.12 (d, 2H), 6.75 (d, 2H), 5.20 (d, 1H), 4.96 (d, 1H), 4.27 (q, 1H), 3.35 (m, 1H), 2.95 (t, 1H), 2.41 (m, 1H), 2.25 (t, 2H), 1.20 (d, 3H).

	Hide Experimental Procedure	**Astra Aktiebolag** **Patent:** US6117908 A1, **2000** ; Title/Abstract Full Text Show Details

Preferably, the compound having agonistic or partially agonistic affinity to a $GABA_B$ receptor is any one of the following compounds:
4-amino-3-(4-chlorophenyl)butanoic acid (baclofen),
(3-aminopropyl)methylphosphinic acid,
(3-amino-2-hydroxypropyl)methylphosphinic acid,
4-aminobutanoic acid (GABA),
(3-amino-2-(4-chlorophenyl)propyl)sulfinic acid,
(3-aminopropyl)(difluoromethyl)phosphinic acid,
(3-amino-2-oxo-propyl)methyl phosphinic acid,
4-amino-3-(5-chlorothien-2-yl)butanoic acid,
(3-aminopropyl)phosphonous acid.

	Hide Experimental Procedure	**Fuji Photo Film Co., Ltd.** **Patent:** US5436221 A1, **1995** ; Title/Abstract Full Text Show Details

15:Synthesis of Monomer 62
Monomer 62 was prepared in the same manner as used in Example 10.
CH_2 =CCH_3 $CONHCH_2$ CH_2 CH_2 CO--Arg--Phg--Asp--Ser
Yield: 24percent
Amino Acid Analysis (nmol/50 µl)
Arg:
1.0028
Phg: 1.0014
Asp:
1.0043
Ser: 0.9963
4-aminobutyric acid:
1.0257
MS: M^+ 662 (662.67)

	Hide Experimental Procedure	**Chesebrough-Pond's USA Co. Division of Conopco, Inc.** **Patent:** US5559092 A1, **1996** ; Title/Abstract Full Text Show Details

the amino acid residues or substituted amino acid residues, as herein defined, being derived from one or more of the following amino acids:
L- α-alanine
L- β-alanine
L- arginine
L- γ- amino butyric acid
L- asparagine
L- aspartic acid
L- citrulline
L- cysteine
L- cystine
...

	Hide Experimental Procedure	**Bayer Aktiengesellschaft** **Patent:** US5580965 A1, **1996** ; Title/Abstract Full Text Show Details

Compounds VIII

...
1-amino-2,3-dicarboxy-benzene
aminoacetic acid
methylaminoacetic acid
3-aminopropionic acid
4-aminobutyric acid
6-amino-caproic acid
11-aminoundecanoic acid
aminosuccinic acid
...

	Hide Experimental Procedure	**Hoechst Aktiengesellschaft** **Patent:** US5622934 A1, **1997** ; Title/Abstract Full Text Show Details

The terms amino acids and amino acid residues are understood as meaning e.g. the stereoisomeric forms, i.e. D or L forms, of the following compounds: alanine glycine proline
...
2-aminoadipic acid
3-aminoadipic acid
beta-alanine
2-aminobutyric acid
4-aminobutyric acid
piperidic acid
6-aminocaproic acid
2- aminoheptanoic acid
...

	Hide Experimental Procedure	**Hoechst Aktiengesellschaft** **Patent:** US5622934 A1, **1997** ; Title/Abstract Full Text Show Details

The terms amino acids and amino acid residues are understood as meaning e.g. the stereoisomeric forms, i.e. D or L forms, of the following compounds: alanine glycine proline
...
3-aminoadipic acid
beta-alanine
2-aminobutyric acid
4-aminobutyric acid
piperidic acid
6-aminocaproic acid
2- aminoheptanoic acid
2-(thien-2-yl)glycine
...

	Hide Experimental Procedure	**Nippon Kayaku Kabushiki Kaisha; Takara Shuzo Kabushiki Kaisha** **Patent:** US5061787 A1, **1991** ; Title/Abstract Full Text Show Details

Examples of the amino acid and the peptide include the following compounds, the configuration of which may be of S,R type or R,S type except glycine, β-alanine and γ-aminobutyric acid:
(1) amino acids
...
phenylglycine,
p-hydroxyphenylglycine,
4-hydroxymethyl-3-hydroxyphenylglycine,
β-alanine,
γ-aminobutyric acid and
3-amino2-hydroxy-4-phenylbutyric acid.

	Hide Experimental Procedure	**Syntex (U.S.A.) Inc.** **Patent:** US4657893 A1, **1987** ; Title/Abstract Full Text Show Details

B. In a similar manner, the p-toluene sulfonic acid salts of the following compounds are prepared:
Beta-alanine;
Valine;
Leucine;
Phenylalanine;
4-Amino butyric acid;
Glycyl-glycine; and

L-Leucyl-4-aminobutyric acid.

Hide Experimental Procedure

Freidlina; Rakhil Khatskelevna; Vasilieva; Tamara Trofimovna; Velichko; Felix Kazimirovich; Terentiev; Alexandr Borisovich
Patent: US4029700 A1, **1977** ;

Title/Abstract Full Text Show Details

1.b:(b)
(b)
γ -Aminobutyric Acid
55 ml of methanol saturated with ammonia (14.6 g NH_3) at 0° C. and 18.1 g of methyl ester of γ -bromobutyric acid are charged into a 0.5-liter stainless steel autoclave.
The autoclave contents are heated to a temperature of about 100° C. and maintained at said temperature for 6 hours.
The resultant mixture is concentrated by evaporation under vacuum; the residue is mixed with 50 ml of concentrated hydrochloric acid; the mixture is heated to a temperature of from 82 to 83° C., maintained at said temperature for 6 hours and evaporated under vacuum to give 23.4 g of dry residue which is dissolved in water to produce a 10-percent solution (224 ml).
The solution is passed through a column packed with a styrene-divinylbenzene sulfocationite resin in the H form.
Then the sulfo cationite resin is stripped of the chlorine ion with water, and the desired amino acid is eluted with a 5-percent aqueous solution of ammonia.
The ammonia liquor is concentrated by evaporation to yield 6.2 g of γ -aminobutyric acid which, after being washed with hot ethanol, has a melting point of 192° C. and is chromatographically indistinguishable from the commercial drug Gammalon.
The yield of γ -aminobutyric acid is 50 percent of the theoretical in terms of methyl ester of γ -bromobutyric acid.

With MSG; Lactobacillus sakei B_2-16 **in** water
T=30 - 80°C; 60.5 h;
Hide Experimental Procedure

DOOSAN CORPORATION; BIOVAN CO., LTD.
Patent: WO2007/7989 A1, **2007** ;
Location in patent: Page/Page column 16 ;

Title/Abstract Full Text Show Details

2:
The 50Og of mung bean extract, which was obtained in the embodiment 1, was mixed with 50Og of culture medium having ingredients and contents shown in a Table 1. The mixture was heated for sterilization at 80°C for 30 minutes to prepare a culture medium for culturing lactic acid bacteria and including the mung bean. Then, Lactobacillus sakei B2-16 (Deposit No. KFCC- 11321) (refer to a Korean Patent Application No. 2003-5828) as the lactic acid bacteria was seeded in the culture so that the initial number of7 8 bacteria was 10 to 10 cfu/m-C. Then, the culture was cultured at 30°C for 60 hours while being stirred at 50 rpm. As a result, a lactic acid bacteria culture of mung bean containing mung bean extract and GABA was obtained.

Hide Experimental Procedure

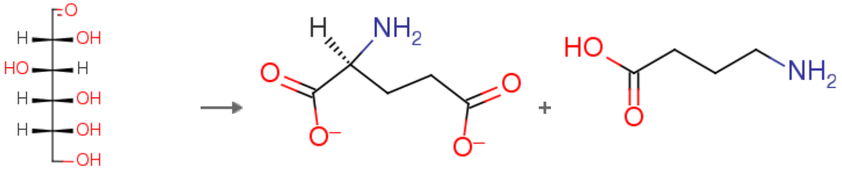
Biogen Idec Hemophilia Inc.; Mezo, Adam R.; McDonnell, Kevin A.
Patent: US8906844 B2, **2014** ;

Title/Abstract Full Text Show Details

The peptide of embodiment 1, wherein X_8, taken together with X_9, forms a dipeptide analog chosen from:
β-alanine;
4-aminobutanoic acid;
5-aminopentanoic acid;
3-(aminomethyl)benzoic acid;
4-(aminomethyl)benzoic acid;
3-(aminophenyl)acetic acid;
4-(aminophenyl)acetic acid;

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A B



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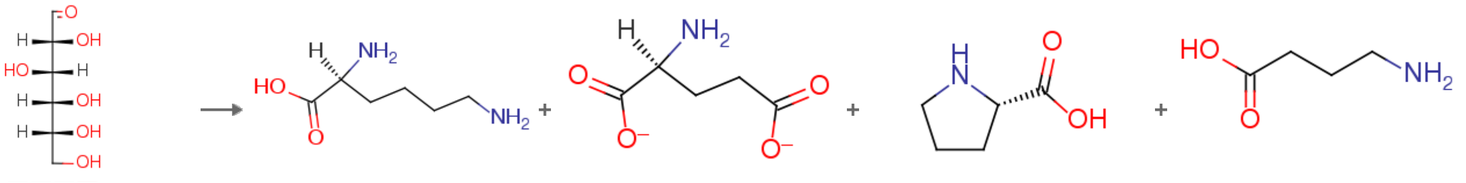
Rx-ID: 38694381
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With ammonium hydroxide; isopropyl 1-thio-β-D-galactopyranoside **in** aq. buffer
T=37°C; pH=7.5; Microbiological reaction;

Zhang, Rongzhen; Yang, Taowei; Rao, Zhiming; Sun, Hongmei; Xu, Meijuan; Zhang, Xian; Xu, Zhenghong; Yang, Shangtian
Green Chemistry, **2014** , vol. 16, # 9 p. 4190 - 4197
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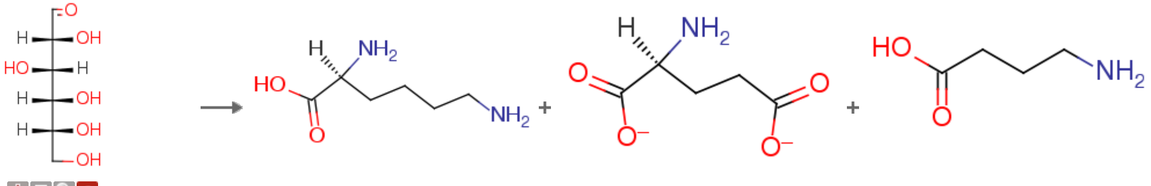
Rx-ID: 38694382
Find similar reactions

With ammonium hydroxide; pyridoxal 5'-phosphate; isopropyl 1-thio-β-D-galactopyranoside **in** aq. buffer
T=37°C; pH=7.5; Microbiological reaction;

Zhang, Rongzhen; **Yang, Taowei**; **Rao, Zhiming**; **Sun, Hongmei**; **Xu, Meijuan**; **Zhang, Xian**; **Xu, Zhenghong**; **Yang, Shangtian**
Green Chemistry, **2014** , vol. 16, # 9 p. 4190 - 4197
Title/Abstract Full Text View citing articles Show Details

7

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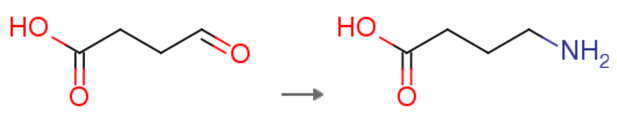
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Rx-ID: 38694383
Find similar reactions

With ammonium hydroxide; pyridoxal 5'-phosphate; isopropyl 1-thio-β-D-galactopyranoside **in** aq. buffer
T=37°C; pH=7.5; Microbiological reaction;

Zhang, Rongzhen; **Yang, Taowei**; **Rao, Zhiming**; **Sun, Hongmei**; **Xu, Meijuan**; **Zhang, Xian**; **Xu, Zhenghong**; **Yang, Shangtian**
Green Chemistry, **2014** , vol. 16, # 9 p. 4190 - 4197
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8



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Rx-ID: 29584348
Find similar reactions

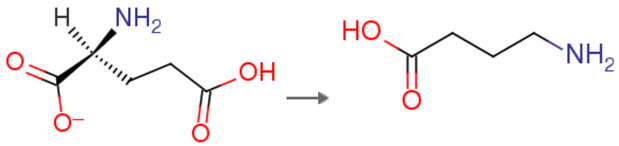
With recombinant Rhodobacter sphaeroides amine-transaminase **in** dimethyl sulfoxide
T=20°C; pH=7.5; aq. bufferEnzymatic reaction;

Schaetzle, Sebastian; **Hoehne, Matthias**; **Robins, Karen**; **Bornscheuer, Uwe T.**
Analytical Chemistry, **2010** , vol. 82, # 5 p. 2082 - 2086
Title/Abstract Full Text View citing articles Show Details

With [3H]-L-Alanine; amine transaminase 3HMU
pH=7.5;

Steffen-Munsberg, Fabian; **Vickers, Clare**; **Thontowi, Ahmad**; **Schaetzle, Sebastian**; **Tumlirsch, Tony**; **SvedendahlHumble, Maria**; **Land, Henrik**; **Berglund, Per**; **Bornscheuer, Uwe T.**; **Hoehne, Matthias**
ChemCatChem, **2013** , vol. 5, # 1 p. 150 - 153
Title/Abstract Full Text View citing articles Show Details

9



Synthesize
Find similar

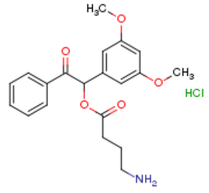
Synthesize
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Rx-ID: 35956018
Find similar reactions

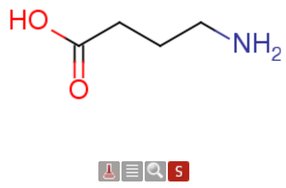
With glutamate decarboxylase; pyridoxal 5'-phosphate **in** aq. phosphate buffer
T=25°C; pH=7; 0.166667 h; Enzymatic reaction; Reagent/catalyst;

Liu, Pingyang; **Torrens-Spence, Michael P.**; **Ding, Haizhen**; **Christensen, Bruce M.**; **Li, Jianyong**
Amino Acids, **2013** , vol. 44, # 2 p. 391 - 404
Title/Abstract Full Text View citing articles Show Details

10



Synthesize
Find similar



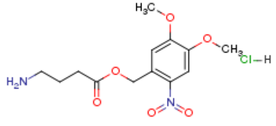
Synthesize
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Rx-ID: 32307072
Find similar reactions

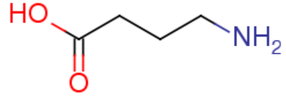
With 4,5-dimethoxy-2-nitrobenzyl 2-aminoacetate hydrochloride
IrradiationPhotolysis;

Stanton-Humphreys, Megan N.; **Taylor, Ruth D. T.**; **McDougall, Craig**; **Hart, Mike L.**; **Brown, C. Tom A.**; **Emptage, Nigel J.**; **Conway, Stuart J.**
Chemical Communications, **2012** , vol. 48, # 5 p. 657 - 659
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11



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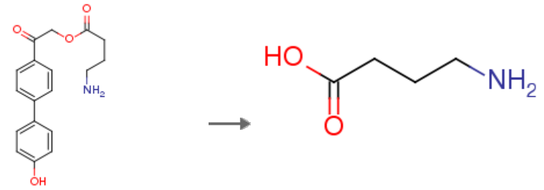
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Rx-ID: 32307087
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With (S)-2-amino-5-(2-(4-methoxyphenyl)-2-oxoethoxy)-5-oxopentanoic acid hydrochloride **in** dimethylsulfoxide-d6
15 h; PhotolysisIrradiationInert atmosphere;

Stanton-Humphreys, Megan N.; **Taylor, Ruth D. T.**; **McDougall, Craig**; **Hart, Mike L.**; **Brown, C. Tom A.**; **Emptage, Nigel J.**; **Conway, Stuart J.**
Chemical Communications, **2012** , vol. 48, # 5 p. 657 - 659
Title/Abstract Full Text View citing articles Show Details

12



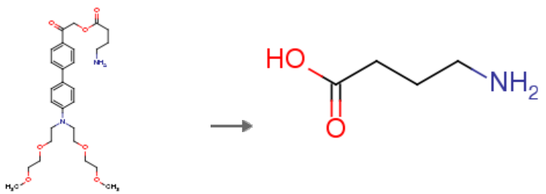
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Rx-ID: 33278417
Find similar reactions

	T=20°C; pH=7.4; 10 h; aq. bufferPhotolysis;	**Specht, Alexandre**; **Bolze, Frederic**; **Donato, Loic**; **Herbivo, Cyril**; **Charon, Sebastien**; **Warther, David**; **Gug, Sylvestre**; **Nicoud, Jean-Franois**; **Goeldner, Maurice** Photochemical and Photobiological Sciences, **2012** , vol. 11, # 3 p. 578 - 586 Title/Abstract Full Text View citing articles Show Details

13



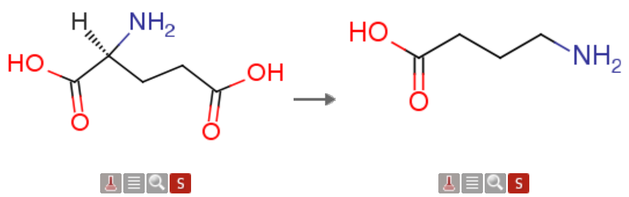
Synthesize
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Rx-ID: 33278418
Find similar reactions

	T=20°C; pH=7.4; 10 h; aq. bufferPhotolysis;	**Specht, Alexandre**; **Bolze, Frederic**; **Donato, Loic**; **Herbivo, Cyril**; **Charon, Sebastien**; **Warther, David**; **Gug, Sylvestre**; **Nicoud, Jean-Franois**; **Goeldner, Maurice** Photochemical and Photobiological Sciences, **2012** , vol. 11, # 3 p. 578 - 586 Title/Abstract Full Text View citing articles Show Details

14



Synthesize
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Rx-ID: 203345
Find similar reactions

85%	**With** hydrogenchloride; immobilized L-glutamate decarboxylate T=37°C; pH = 4.6;	**Yanushyavichyute, R. P.**; **Paulyukonis, A. B.**; **Kazlauskas, D. A.** Chemistry of Natural Compounds, **1983** , vol. 19, # 3 p. 246 Khimiya Prirodnykh Soedinenii, **1983** , # 2 p. 246 - 247 Title/Abstract Full Text View citing articles Show Details
	durch Einwirkung von Decarboxylase-Praeparaten aus Rhizobium leguminosarum;	**Virtanen**; **Rintala**; **Laine** Nature (London, United Kingdom), **1938** , vol. 142, p. 674 Enzymol., **1940** , vol. 9, p. 56 Full Text View citing articles Show Details

durch Einwirkung von Decarboxylase-Praeparaten aus Escherichia coli;	**Sherman** Biochemical Preparations, **1955** , vol. 4, p. 91 Full Text Show Details **Gale** Biochemical Journal, **1940** , vol. 34, p. 401,405 Biochemical Journal, **1941** , vol. 35, p. 68,76 Full Text Show Details

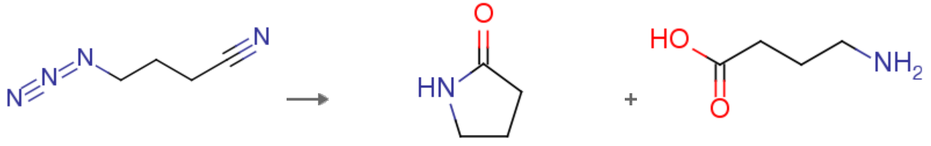
Hide Details

in Pflanzen;	**Loomis in W.Ruhland** Handbuch der Pflanzenphysiologie, Bd.8<Berlin 1958>S.231 Full Text Show Details
Decarboxylierung durch Rhizobium leguminosarum;	**Virtanen; Rintala; Laine** Nature (London, United Kingdom), **1938** , vol. 142, p. 674 Enzymol., **1940** , vol. 9, p. 56 Full Text View citing articles Show Details
Decarboxylierung durch Escherchia coli;	**Taylor; Gale** Biochemical Journal, **1945** , vol. 39, p. 53 Full Text Show Details **Gale** Biochemical Journal, **1940** , vol. 34, p. 401,405 Biochemical Journal, **1941** , vol. 35, p. 68,76 Full Text Show Details **Hughes** Biochemical Journal, **1949** , vol. 45, p. 326 Full Text Show Details **Colowick,S.P.; Kaplan,N.O.** Methods in Enzymology, Bd. 2 <New York 1955> S. 186 Full Text Show Details **Umbreit; Gunsalus** Journal of Biological Chemistry, **1945** , vol. 159, p. 338 Full Text Show Details
Decarboxylierung durch Clostridium- und Propeus-Arten;	**Hughes** Biochemical Journal, **1949** , vol. 45, p. 326 Full Text Show Details **Gale** Adv.Enzymol., **1946** , vol. 6, p. 1 Full Text Show Details **Gale** Biochemical Journal, **1941** , vol. 35, p. 68,77 Biochemical Journal, **1945** , vol. 39, p. 48 Full Text Show Details
Decarboxylierung durch Pollen von Lilium auratum;	**Okunuki** Acta Phytochimica, **1943** , vol. 13, p. 156 Full Text Show Details
Decarboxylierung durch Gewebe verschiedener Pflanzen;	**Colowick,S.P.; Kaplan,N.O.** Methods in Enzymology, Bd. 2 <New York 1955> S. 190 Full Text Show Details **Schales; Schales** Archives of Biochemistry, **1946** , vol. 11, p. 155 Full Text Show Details **Schales; Mims; Schales** Archives of Biochemistry, **1946** , vol. 10, p. 456 Full Text Show Details
With pyridoxal 5'-phosphate; glutamate decarboxylase **in** pyridine; hydrogenchloride T=37°C; pH=5.0; 0.166667 h; Enzyme kinetics; Further Variations:TemperaturespH-values;	**Komatsuzaki, Noriko; Nakamura, Toshihide; Kimura, Toshinori; Shima, Jun** Bioscience, Biotechnology and Biochemistry, **2008** , vol. 72, # 2 p. 278 - 285 Title/Abstract Full Text View citing articles Show Details
With glutamic acid α-decarboxylase; pyridoxal 5'-phosphate; sodium hydroxide **in** water T=40°C; pH=4.6; Enzymatic reaction; Kinetics; Reagent/catalystTemperatureTime;	**Lammens, Tijs M.; De Biase, Daniela; Franssen, Maurice C. R.; Scott, Elinor L.; Sanders, Johan P. M.** Green Chemistry, **2009** , vol. 11, # 10 p. 1562 - 1567 Title/Abstract Full Text View citing articles Show Details

With L-glutamic acid decarboxylase; pyridoxal 5'-phosphate
T=37°C; pH=4.6; 1 h; aq. pyridine*HCl bufferEnzymatic reaction;

Medici, Rosario; De Maria, Pablo Dominguez; Otten, Linda G.; Straathof, Adrie J. J.
Advanced Synthesis and Catalysis, **2011** , vol. 353, # 13 p. 2369 - 2376
Title/Abstract Full Text View citing articles Show Details

15



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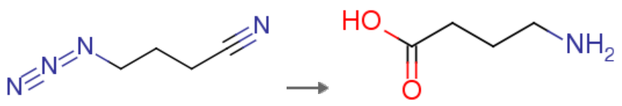
Rx-ID: 30793160
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Stage #1: **With** trisodium phosphorothioate **in** water-d2
T=90°C; 3 h;
Stage #2: **With** NaOD **in** water-d2
T=90°C; 3 h;
Hide Experimental Procedure

Norcliffe, Jennifer L.; Conway, Louis P.; Hodgson, David R.W.
Tetrahedron Letters, **2011** , vol. 52, # 21 p. 2730 - 2732
Title/Abstract Full Text View citing articles Show Details

Experimental procedures for entries in Table 2
Entry 8: Trisodium thiophosphate (140 μmol, 25 mg) was dissolved in D2O (1 mL) and the solution was added to 4-azido-butyronitrile (45 μmol, 5 mg) in an NMR tube. The NMR tube was heated at 90 °C for 3 h, and allowed to cool. 100 μl of 40percent sodium deuteroxide in deuterium oxide was added to the NMR tube, and was heated at 90 °C for 3 h before being subjected to 1H, 13C NMR analyses. To confirm the formation of γ-aminobutyric acid, commercial GABA was added to the NMR tube, with 1H and 13C NMR analyses being performed after addition.

16



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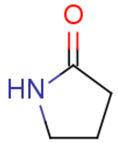
Rx-ID: 30793161
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Stage #1: **With** trisodium phosphorothioate **in** water-d2
T=90°C; 3 h;
Stage #2: **With** NaOD **in** water-d2
T=90°C; 16 h;
Hide Experimental Procedure

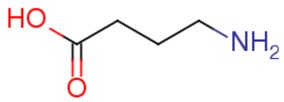
Norcliffe, Jennifer L.; Conway, Louis P.; Hodgson, David R.W.
Tetrahedron Letters, **2011** , vol. 52, # 21 p. 2730 - 2732
Title/Abstract Full Text View citing articles Show Details

Experimental procedures for entries in Table 2
Entry 8: Trisodium thiophosphate (140 μmol, 25 mg) was dissolved in D2O (1 mL) and the solution was added to 4-azido-butyronitrile (45 μmol, 5 mg) in an NMR tube. The NMR tube was heated at 90 °C for 3 h, and allowed to cool. 100 μl of 40percent sodium deuteroxide in deuterium oxide was added to the NMR tube, and was heated at 90 °C for 3 h before being subjected to 1H, 13C NMR analyses. To confirm the formation of γ-aminobutyric acid, commercial GABA was added to the NMR tube, with 1H and 13C NMR analyses being performed after addition.

17



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Rx-ID: 28151
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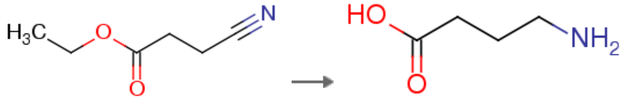
	With sulfuric acid T=25°C; variation of the concenntration of sulfuric acid;ΔH (excit.), ΔS (excit.); 4.72 percent H_2SO_4; Rate constantThermodynamic data;	**Wan, Peter; Modro, Tomasz A.; Yates, Keith** Canadian Journal of Chemistry, **1980** , vol. 58, p. 2423 - 2432 Title/Abstract Full Text Show Details
	With sulfuric acid; water T=94°C; effective rate constants for hydrolysis at different temperatures; further temperatures; Rate constantMechanism;	**Vinnik, M. I.; Moiseev, Yu. V.** Bulletin of the Academy of Sciences of the USSR, Division of Chemical Science (English Translation), **1983** , vol. 32, # 4 p. 708 - 716 Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, **1983** , # 4 p. 777 - 786 Title/Abstract Full Text View citing articles Show Details
	With sulfuric acid	**Bragg; Hough** Journal of the Chemical Society, **1958** , p. 4050,4053 Full Text Show Details

Hide Details

	With hydrogenchloride	**Bragg; Hough** Journal of the Chemical Society, **1958** , p. 4050,4053 Full Text Show Details
	in sulfuric acid T=25°C; ΔH(excit.), ΔS(excit.); other lactams; Rate constantThermodynamic dataMechanism;	**Cox, Robin A.** Canadian Journal of Chemistry, **1998** , vol. 76, # 6 p. 649 - 656 Title/Abstract Full Text View citing articles Show Details
	With water; potassium hydroxide Hide Experimental Procedure	**BASE SE** **Patent:** US2010/249434 A1, **2010** ; **Location in patent:** Page/Page column 2 ; Title/Abstract Full Text Show Details

1:
2-Pyrrolidone and 50percent KOH solution in water were initially charged, and the water and water which formed were distilled off under reduced pressure within one hour (residence time). In the reaction mixture thus prepared, aminobutyric acid and oligomers and hydrolysis products were found in significant amounts.

18

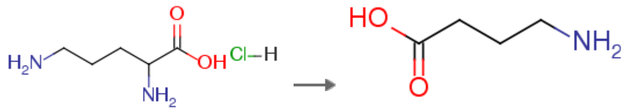
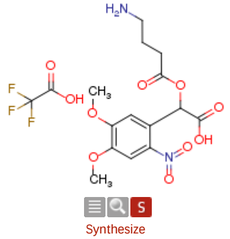
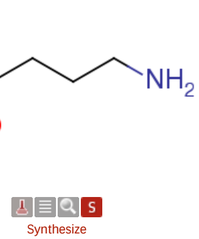


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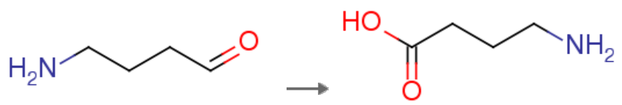
Synthesize
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Rx-ID: 237323
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50%	Stage #1: **With** water; sodium hydroxide	**Cook, Matthew C.; Witherell, Ross D.; White, Robert L.**

		1.5 h; Reflux; Stage #2: **With** sodium tetrahydroborate; $CoCl_2 \cdot 6H_2O$ T=20°C;	Letters in Drug Design and Discovery, **2010** , vol. 7, # 1 p. 9 - 13 Title/Abstract Full Text View citing articles Show Details
		With sulfuric acid; acetic acid; platinum Hydrogenation und Erhitzen des Reaktionsprodukts mit wss.Ba(OH)2;	**Sorm; Beranek** Chemicke Listy, **1953** , vol. 47, p. 1241 Chem.Abstr., **1955** , p. 860 Full Text Show Details
19	 Synthesize Find similar Synthesize Find similar		Rx-ID: 29571341 Find similar reactions
		With dipotassium peroxodisulfate; osmium; potassium meta-periodate; silver nitrate; potassium hydroxide **in** water T=24.84°C; 3 h; Inert atmosphereClosed vessel; MechanismKineticsThermodynamic data; TemperatureConcentrationSolvent;	**Malode, Shweta J.; Abbar, Jyothi C.; Nandibewoor, Sharanappa T.** Synthesis and Reactivity in Inorganic, Metal-Organic and Nano-Metal Chemistry, **2010** , vol. 40, # 4 p. 246 - 256 Title/Abstract Full Text View citing articles Show Details
		Stage #1: **With** osmium(VIII) oxide; potassium meta-periodate; potassium nitrate; potassium hydroxide; sodium hydroxide **in** water T=25°C; Inert atmosphere; Stage #2: **in** water Acidic aq. solution; Kinetics; TemperatureReagent/catalyst;	**Abbar, Jyothi C.; Malode, Shweta J.; Nandibewoor, Sharanappa T.** Zeitschrift fur Physikalische Chemie, **2010** , vol. 224, # 6 p. 865 - 882 Title/Abstract Full Text View citing articles Show Details
		With hydrogenchloride; ruthenium trichloride; potassium meta-periodate; $AgH_6I_2O_{12}^{(1-)} * K^{(1+)}$; potassium nitrate; potassium hydroxide **in** water T=25°C; Alkaline conditions; KineticsMechanism; Reagent/catalystConcentrationTemperature;	**Malode, Shweta J.; Abbar, Jyothi C.; Nandibewoor, Sharanappa T.** Inorganica Chimica Acta, **2010** , vol. 363, # 11 p. 2430 - 2442 Title/Abstract Full Text View citing articles Show Details
20	 Synthesize Find similar  Synthesize Find similar		Rx-ID: 29660965 Find similar reactions
100 %Spectr.		UV-irradiation;	**Russell, Alexander G.; Ragoussi, Maria-Eleni; Ramalho, Rui; Wharton, Christopher W.; Carteau, David; Bassani, Dario M.; Snaith, John S.** Journal of Organic Chemistry, **2010** , vol. 75, # 13 p. 4648 - 4651 Title/Abstract Full Text View citing articles Show Details

21



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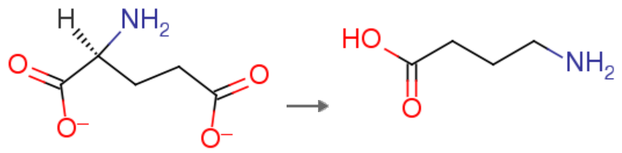
Synthesize
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Rx-ID: 30495218
Find similar reactions

With Pisum sativum aminoaldehyde dehydrogenase 1; β-NADP$^+$
T=20°C; pH=9; aq. bufferEnzymatic reaction;

Tylichova, Martina; **Kopecny, David**; **Morera, Solange**; **Briozzo, Pierre**; **Lenobel, Rene**; **Snegaroff, Jacques**; **Sebela, Marek**
Journal of Molecular Biology, **2010** , vol. 396, # 4 p. 870 - 882
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22



Synthesize
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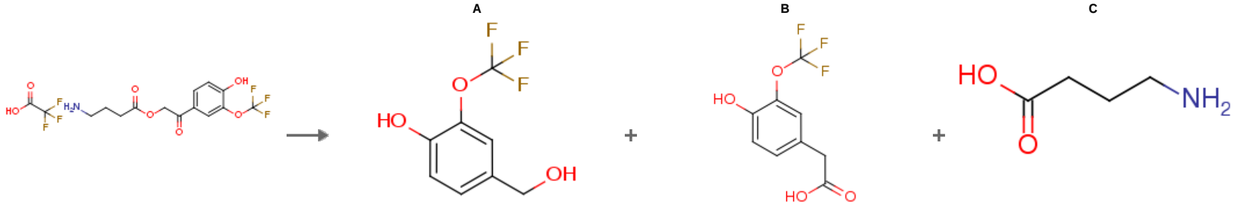
Synthesize
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Rx-ID: 28407629
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With Pyrococcus horikoshii glutamate decarboxylase; pyridoxal 5'-phosphate; sodium salt of phosphorous acid; sodium chloride
T=85°C; 1 h; Enzymatic reaction; Kinetics;

Kim, Han-Woo; **Kashima, Yasuhiro**; **Ishikawa, Kazuhiko**; **Yamano, Naoko**
Bioscience, Biotechnology and Biochemistry, **2009** , vol. 73, # 1 p. 224 - 227
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23



Synthesize
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Rx-ID: 28853004
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A

Synthesize
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B

Synthesize
Find similar

C

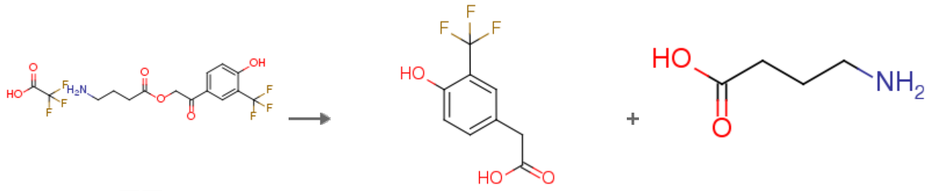
Synthesize
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With water
T=20°C; Favorskii rearrangement; Irradiation; MechanismQuantum yield; pH-valueSolvent;

Stensrud, Kenneth; **Noh, Jihyun**; **Kandler, Karl**; **Wirz, Jakob**; **Heger, Dominik**; **Givens, Richard S.**
Journal of Organic Chemistry, **2009** , vol. 74, # 15 p. 5219 - 5227
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A B

24



Synthesize
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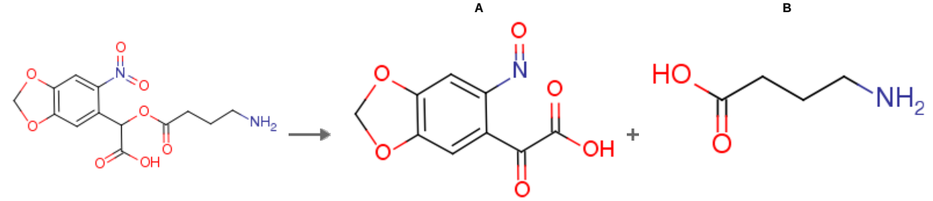
Synthesize
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Rx-ID: 28853012
Find similar reactions

With water
T=20°C; Favorskii rearrangement; Irradiation; MechanismQuantum yield; pH-valueSolvent;

Stensrud, Kenneth; **Noh, Jihyun**; **Kandler, Karl**; **Wirz, Jakob**; **Heger, Dominik**; **Givens, Richard S.**
Journal of Organic Chemistry, **2009** , vol. 74, # 15 p. 5219 - 5227
Title/Abstract Full Text View citing articles Show Details

25



A

B

Synthesize
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Synthesize
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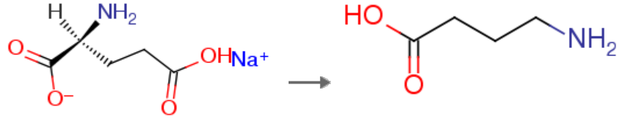
Synthesize
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Rx-ID: 25972839
Find similar reactions

T=25°C; KineticsQuantum yieldActivation energy; Further Variations:Solvents;

Bley, Filiz; **Schaper, Klaus**; **Goerner, Helmut**
Photochemistry and Photobiology, **2008** , vol. 84, # 1 p. 162 - 171
Title/Abstract Full Text View citing articles Show Details

26



Synthesize
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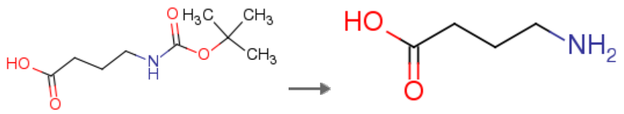
Synthesize
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Rx-ID: 27941740
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With pyridoxal 5'-phosphate; pyridine hydrochloride; ammonium sulfate
T=37°C; pH=4.6; 60 h; Enzyme kinetics;

Hiraga, Kazumi; **Ueno, Yoshie**; **Oda, Kohei**
Bioscience, Biotechnology and Biochemistry, **2008** , vol. 72, # 5 p. 1299 - 1306
Title/Abstract Full Text View citing articles Show Details

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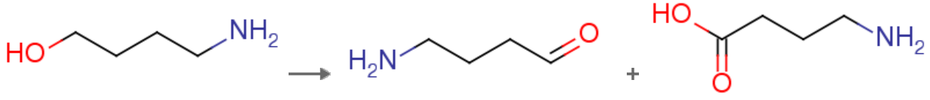
Rx-ID: 10504941
Find similar reactions

With trifluoroacetic acid **in** dichloromethane
T=20°C; 1 h;

Fattori, Daniela; **Rossi, Cristina**; **Fincham, Christopher I.**; **Caciagli, Valerio**; **Catrambone, Fernando**; **D'Andrea, Piero**; **Felicetti, Patrizia**; **Gensini, Martina**; **Marastoni, Elena**; **Nannicini, Rossano**; **Paris, Marielle**; **Terracciano, Rosa**; **Bressan, Alessandro**; **Giuliani, Sandro**; **Maggi, Carlo A.**; **Meini, Stefania**; **Valenti, Claudio**; **Quartara, Laura**
Journal of Medicinal Chemistry, **2007** , vol. 50, # 3 p. 550 - 565
Title/Abstract Full Text View citing articles Show Details

28

A B



Synthesize
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Synthesize
Find similar

Synthesize
Find similar

Rx-ID: 11104653
Find similar reactions

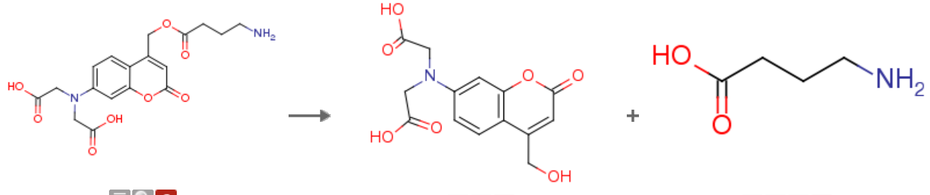
A: 39%
B: 2%

With 1H-imidazole; [bis(acetoxy)iodo]benzene **in** dichloromethane
T=20°C; 1 h;

Karimipour, Gholam Reza; **Shadegan, Hamid Asadpour**; **Ahmadpour, Roxana**
Journal of Chemical Research, **2007** , # 4 p. 252 - 256
Title/Abstract Full Text View citing articles Show Details

29

A B



Synthesize
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Synthesize
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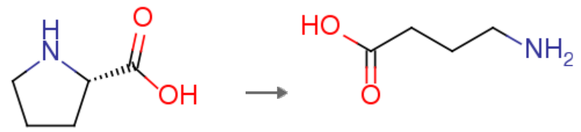
Synthesize
Find similar

Rx-ID: 28609603
Find similar reactions

T=20°C; pH=7.2; aq. bufferUV-irradiation; Quantum yieldKinetics;

Senda, Naoko; **Momotake, Atsuya**; **Arai, Tatsuo**
Bulletin of the Chemical Society of Japan, **2007** , vol. 80, # 12 p. 2384 - 2388
Title/Abstract Full Text View citing articles Show Details

30



Synthesize
Find similar

Synthesize
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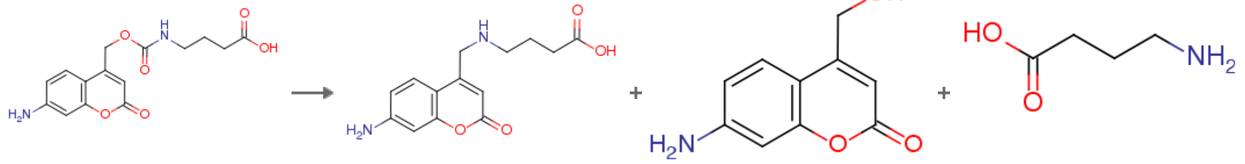
Rx-ID: 11096255
Find similar reactions

With potassium hydroxide; potassium nitrate; potassium meta-periodate **in** water
T=27°C; KineticsProduct distribution; Further Variations:TemperaturesSolvents;

Seregar; Hiremath; Nandibewoor
Zeitschrift fur Physikalische Chemie, **2006** , vol. 220, # 5 p. 615 - 629
Title/Abstract Full Text View citing articles Show Details

31

A B C



Synthesize
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Synthesize
Find similar

Synthesize
Find similar

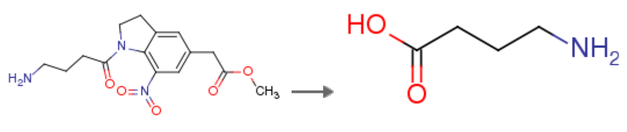
Synthesize
Find similar

Rx-ID: 11050170
Find similar reactions

in phosphate buffer
pH=7.4; Irradiation; Quantum yield;

Cuerten, Beate; Kullmann, Paul H. M.; Bier, Mark E.; Kandler, Karl; Schmidt, Brigitte F.
Photochemistry and Photobiology, **2005** , vol. 81, # 3 p. 641 - 648
Title/Abstract Full Text View citing articles Show Details

32



Synthesize
Find similar

Synthesize
Find similar

Rx-ID: 23062493
Find similar reactions

88%

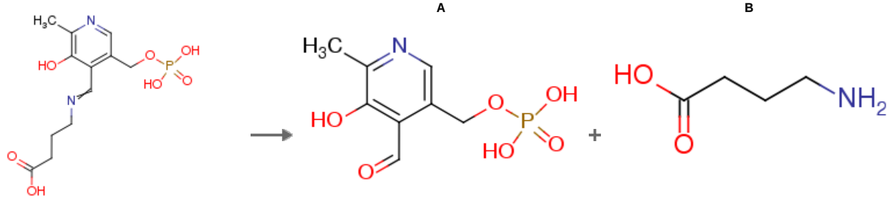
in water
pH=7.0; Ammonium phosphate; Photolysis; Reactivity;
Hide Experimental Procedure

Medical Research Council
Patent: US6765014 B1, **2004** ;
Location in patent: Page column 13 ;

Title/Abstract Full Text Show Details

Photolysis and product analysis for compound 21.
A solution (0.5 mM) of 21 in 25 mM ammonium phosphate, pH 7.0 was irradiated as described for compound 10 and the photolyzed solution was quantified by reverse-phase HPLC and amino acid analysis. At 38percent photolysis, the measured recovery of GABA was 88percent of the value calculated from the extent of photolysis.

33



Synthesize
Find similar

Synthesize
Find similar

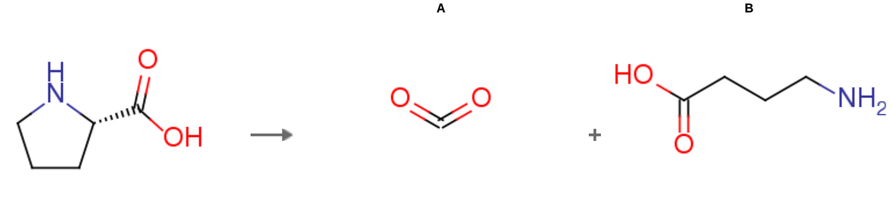
Synthesize
Find similar

Rx-ID: 9323272
Find similar reactions

in water
T=10°C; pH=4.27; Kinetics; Further Variations:pH-valuesTemperatures;

Gorostidi, Gerardo R. Echevarria; Castellanos, M. Gabriela; Perez, Piedad Martin; Santos, Jose G.; Blanco, Francisco Garcia
Bulletin of the Chemical Society of Japan, **2003** , vol. 76, # 3 p. 523 - 528
Title/Abstract Full Text Show Details

34



Synthesize
Find similar

Synthesize
Find similar

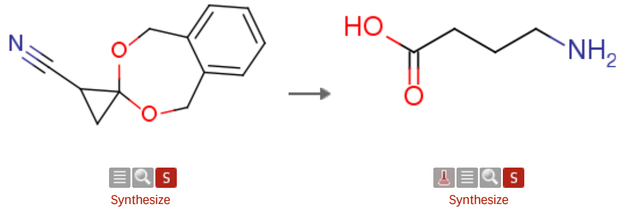
Synthesize
Find similar

Rx-ID: 9610215
Find similar reactions

With diperiodatonickelate(IV) ion **in** alkaline aq. solution
T=25°C; 6 h; Kinetics; Further Variations:Temperatures;

Mulla; Gurubasavaraj; Nandibewoor
Polish Journal of Chemistry, **2003** , vol. 77, # 12 p. 1833 - 1840
Title/Abstract Full Text View citing articles Show Details

35



Synthesize
Find similar

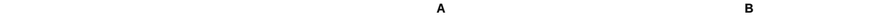
Synthesize
Find similar

Rx-ID: 8952801
Find similar reactions

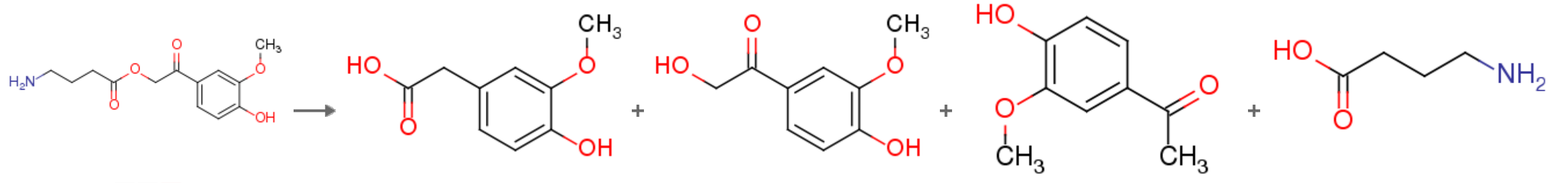
91%

With hydrogen; palladium on activated charcoal **in** ethyl acetate
P=750.075 Torr; 24 h;

Royer; Felpin; Doris
Journal of Organic Chemistry, **2001** , vol. 66, # 19 p. 6487 - 6489
Title/Abstract Full Text View citing articles Show Details



36



Synthesize
Find similar

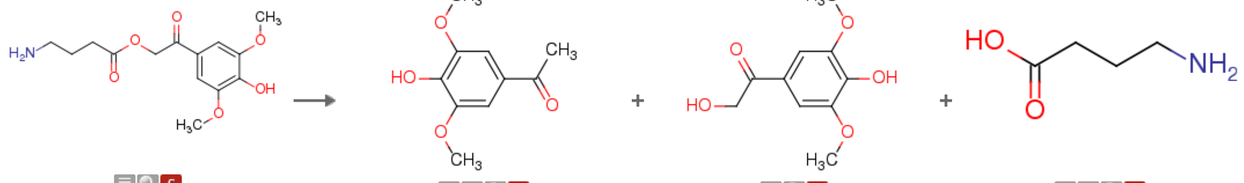
Rx-ID: 8589551
Find similar reactions

With water
Hydrolysis; reduction; rearrangement; UV-irradiation;

Conrad II, Peter G.; Givens, Richard S.; Weber, Joerg F. W.; Kandler, Karl
Organic Letters, **2000** , vol. 2, # 11 p. 1545 - 1547
Title/Abstract Full Text View citing articles Show Details

37

A B C



Synthesize
Find similar

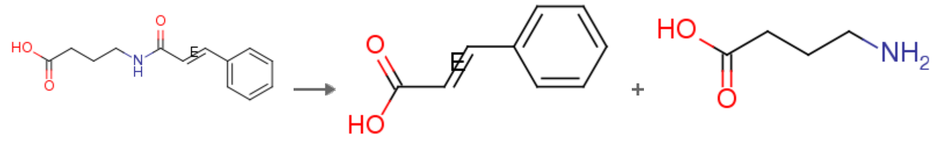
Rx-ID: 8590916
Find similar reactions

With water
Hydrolysis; reduction; UV-irradiation;

Conrad II, Peter G.; Givens, Richard S.; Weber, Joerg F. W.; Kandler, Karl
Organic Letters, **2000** , vol. 2, # 11 p. 1545 - 1547
Title/Abstract Full Text View citing articles Show Details

38

A B



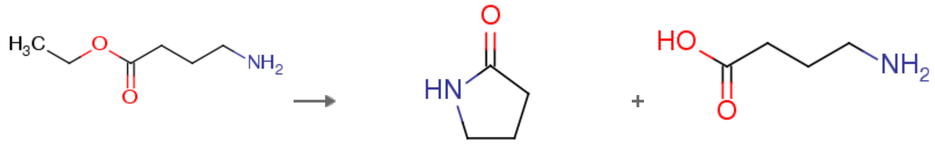
Synthesize
Find similar

Rx-ID: 8779866
Find similar reactions

With [(Cu(II)tren)2.18]0.89poly($ClCH_2$styrene-co-divinyl-Ph^{MeO}; HEPES buffer
T=50°C; Hydrolysis; pH=8.0; Kinetics; Further Variations:pH-values;

Moon, Sung-Ju; Jeon, Joong Won; Kim, Heesuk; Suh, Myunghyun Paik; Sun, Junghun
Journal of the American Chemical Society, **2000** , vol. 122, # 32 p. 7742 - 7749
Title/Abstract Full Text View citing articles Show Details

39

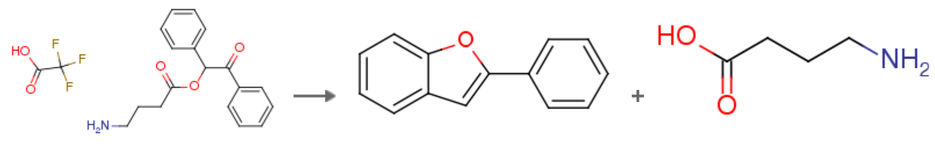


Rx-ID: 5142291
Find similar reactions

With pig liver esterase **in** water
T=30°C; K_{cat}/K_m; Kinetics;

Barker, C. Vivienne; Korn, Stewart R.; Monteith, Michael; Page, Michael I.
Chemical Communications, **1999** , # 8 p. 721 - 722
Title/Abstract Full Text View citing articles Show Details

40

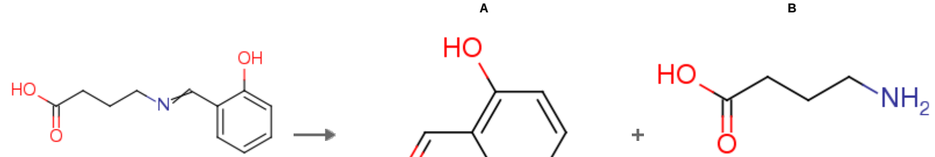


Rx-ID: 4453218
Find similar reactions

With 4-methoxy-benzoic acid **in** water; acetonitrile
T=0°C; 0.533333 h; Irradiation; Rate constant;

Gee, Kyle R.; Kueper III, L. William; Barnes, Jeffrey; Dudley, Gregory; Givens, Richard S.
Journal of Organic Chemistry, **1996** , vol. 61, # 4 p. 1228 - 1233
Title/Abstract Full Text View citing articles Show Details

41

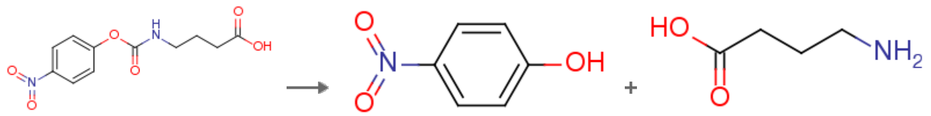


Rx-ID: 4430654
Find similar reactions

With phosphate buffer **in** methanol
var. pH; Rate constant;

Lurie, E. Yu.; Mosina, E. M.; Efremova, A. A.; Kaplun, A. P.; Shvets, V. I.
Russian Journal of Bioorganic Chemistry, **1995** , vol. 21, # 8 p. 520 - 523
Bioorganicheskaya Khimiya, **1995** , vol. 21, # 8 p. 604 - 607
Title/Abstract Full Text Show Details

42



A B

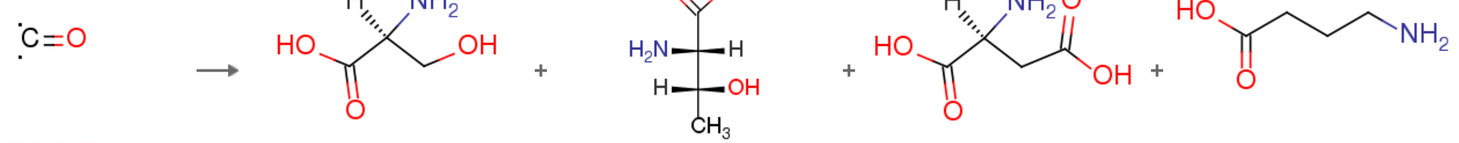
Synthesize Find similar | Synthesize Find similar | Synthesize Find similar

Rx-ID: 3680557
Find similar reactions

With water; antibody $33B_4F_{11}$
T=25°C; pH = 7.0, NaCl; Rate constant;

Van Vranken, David L.; Panomitros, Demetra; Schultz, Peter G.
Tetrahedron Letters, **1994** , vol. 35, # 23 p. 3873 - 3876
Title/Abstract Full Text View citing articles Show Details

43



A B C D

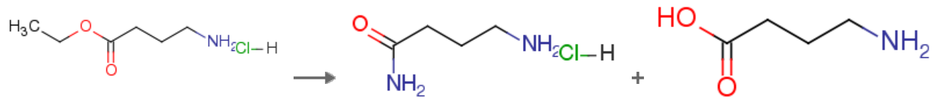
Synthesize Find similar | Synthesize Find similar | Synthesize Find similar | Synthesize Find similar | Synthesize Find similar

Rx-ID: 2255405
Find similar reactions

With Na_2MoO_4; FAS; hydrogen; sodium carbonate; ammonium chloride; calcium chloride; magnesium chloride; zinc(II) chloride **in** water
5 h; Ambient temperatureIrradiationpH=7.0; Further byproducts given;

Kobayashi, Kensei; Oshima, Tairo; Yanagawa, Hiroshi
Chemistry Letters, **1989** , p. 1527 - 1530
Title/Abstract Full Text Show Details

44



A B

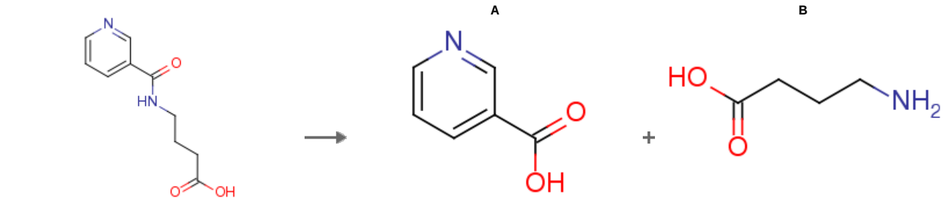
Synthesize Find similar | Synthesize Find similar | Synthesize Find similar

Rx-ID: 2426873
Find similar reactions

With hydrogenchloride; ammonium hydroxide
1.) 24 h, r.t., 2.) CH_2Cl_2; Yield given. Multistep reaction. Yields of byproduct given;

Smith, Terence A.; Marshall, Jacqueline H. A.
Phytochemistry (Elsevier), **1988** , vol. 27, # 3 p. 703 - 710
Title/Abstract Full Text View citing articles Show Details

45



Synthesize
Find similar

Synthesize
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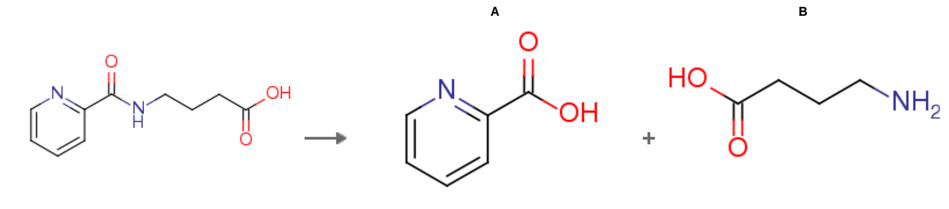
Synthesize
Find similar

Rx-ID: 2435796
Find similar reactions

With hydrogenchloride
T=90°C; various concentrations of HCl and temperatures; Rate constantMechanism;

Kozlov, E. I.; L'vova, M. Sh.; Garber, N. I.
Pharmaceutical Chemistry Journal, **1988** , vol. 22, # 4 p. 328 - 333
Khimiko-Farmatsevticheskii Zhurnal, **1988** , vol. 22, # 4 p. 463 - 468
Title/Abstract Full Text View citing articles Show Details

46



Synthesize
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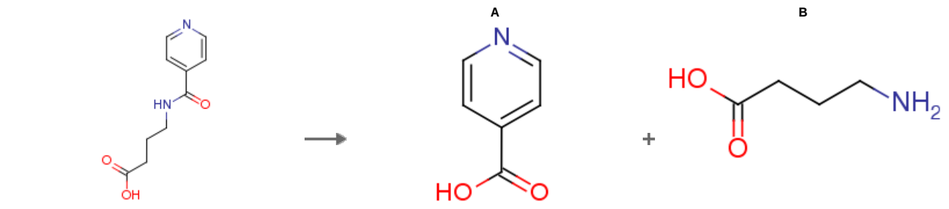
Synthesize
Find similar

Rx-ID: 3125396
Find similar reactions

With hydrogenchloride
T=70°C; other temperature; Rate constant;

Kozlov, E. I.; L'vova, M. Sh.; Garber, N. I.
Pharmaceutical Chemistry Journal, **1988** , vol. 22, # 4 p. 328 - 333
Khimiko-Farmatsevticheskii Zhurnal, **1988** , vol. 22, # 4 p. 463 - 468
Title/Abstract Full Text View citing articles Show Details

47

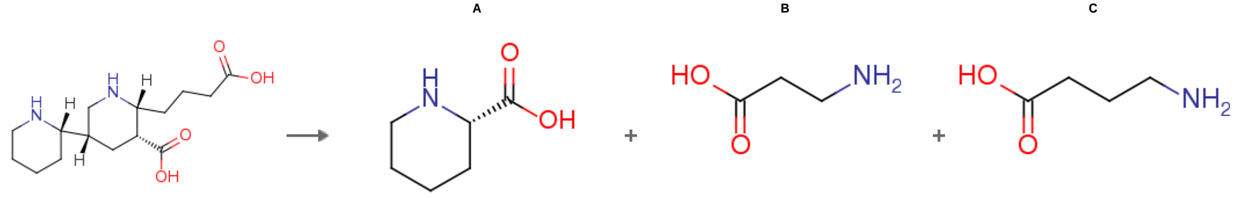
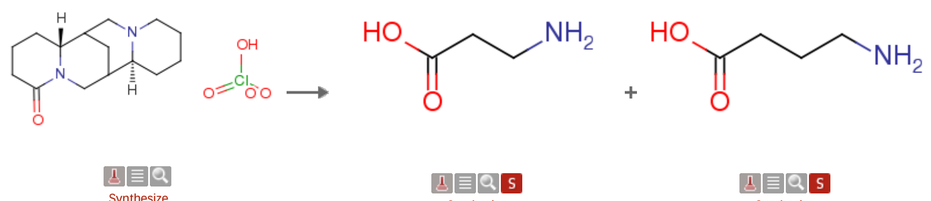
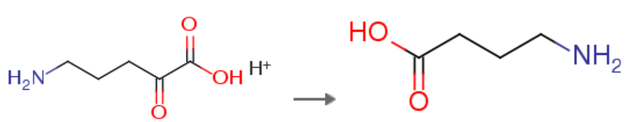


Synthesize
Find similar

Synthesize
Find similar

Synthesize
Find similar

Rx-ID: 3194903
Find similar reactions

		With hydrogenchloride T=70°C; other temperature; Rate constant;	**Kozlov, E. I.**; **L'vova, M. Sh.**; **Garber, N. I.** Pharmaceutical Chemistry Journal, **1988** , vol. 22, # 4 p. 328 - 333 Khimiko-Farmatsevticheskii Zhurnal, **1988** , vol. 22, # 4 p. 463 - 468 Title/Abstract Full Text View citing articles Show Details
48	 A B C Synthesize Find similar (A) Synthesize Find similar (B) Synthesize Find similar (C) Rx-ID: 3265128 Find similar reactions		
	A: 9%	**With** chromium(VI) oxide **in** sulfuric acid T=100°C; 6 h;	**Golebiewski**; **Spenser** Canadian Journal of Chemistry, **1988** , vol. 66, # 7 p. 1734 - 1748 Title/Abstract Full Text View citing articles Show Details
49	 A B Synthesize Find similar (A) Synthesize Find similar (B) Synthesize Find similar Rx-ID: 3438291 Find similar reactions		
	A: 2 mg B: 0.4 mg	**With** chromium(VI) oxide; sulfuric acid **in** water T=100°C; 72 h;	**Golebiewski**; **Spenser** Canadian Journal of Chemistry, **1988** , vol. 66, # 7 p. 1734 - 1748 Title/Abstract Full Text View citing articles Show Details
	A: 2 mg B: 0.4 mg	**With** chromium(VI) oxide; sulfuric acid **in** water T=100°C; 72 h;	**Golebiewski**; **Spenser** Canadian Journal of Chemistry, **1988** , vol. 66, # 7 p. 1734 - 1748 Title/Abstract Full Text View citing articles Show Details
50			

Synthesize
Find similar

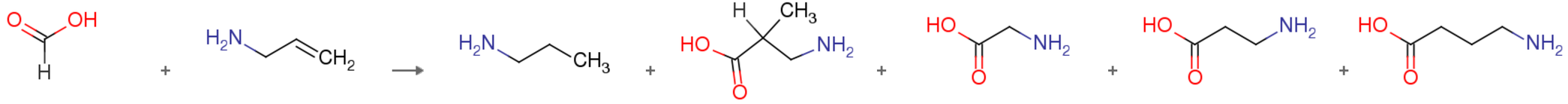
Synthesize
Find similar

Rx-ID: 3472972
Find similar reactions

With dihydrogen peroxide
T=40°C; 0.75 h; Yield given;

Haeusler, Johannes
Monatshefte fuer Chemie, **1987** , vol. 118, p. 865 - 870
Title/Abstract Full Text View citing articles Show Details

51



Synthesize
Find similar

Synthesize
Find similar

Synthesize
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Synthesize
Find similar

Synthesize
Find similar

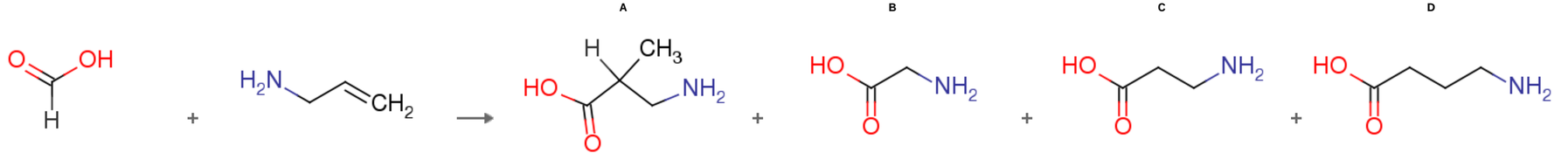
Rx-ID: 3529692
Find similar reactions

B: 38%
E: 5%

With hydrogen; oxygen **in** water
3 h; various unsaturated amines; investigation of the direct carboxylation of C=C bond, the effect of formic acid concentration as well as the flame composition on product(s); radical mechanism is proposed; Product distribution;

Nomoto, Shinya; Harada, Kaoru
Chemistry Letters, **1985** , p. 145 - 148
Title/Abstract Full Text Show Details

52



Synthesize
Find similar

Synthesize
Find similar

Synthesize
Find similar

Synthesize
Find similar

Synthesize
Find similar

Rx-ID: 3529693
Find similar reactions

A: 38%
D: 5%

With hydrogen; oxygen **in** water
3 h; Further byproducts given;

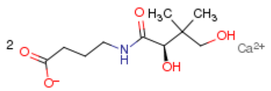
Nomoto, Shinya; Harada, Kaoru
Chemistry Letters, **1985** , p. 145 - 148
Title/Abstract Full Text Show Details

A: 38%
D: 5%

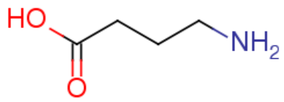
With hydrogen; oxygen **in** water
3 h; Further byproducts given;

Nomoto, Shinya; Harada, Kaoru
Chemistry Letters, **1985** , p. 145 - 148
Title/Abstract Full Text Show Details

53



Synthesize
Find similar



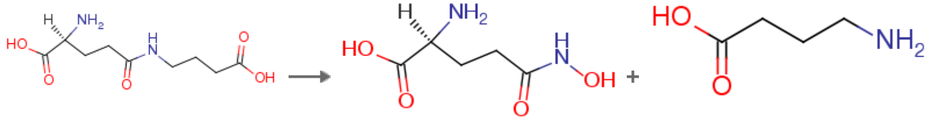
Synthesize
Find similar

Rx-ID: 3013435
Find similar reactions

95.3%	**in** water T=100°C; 1.5 h; pH: 0.9;	**Ozerinina, T. V.; L'vova, M. Sh.; Kozlov, E. I.** Pharmaceutical Chemistry Journal, **1984** , vol. 18, # 7 p. 505 - 511 Khimiko-Farmatsevticheskii Zhurnal, **1984** , vol. 18, # 7 p. 865 - 870 Title/Abstract Full Text View citing articles Show Details
	With buffer solutions (acid, neutral and alkaline media) pH range: 2.0 - 10.2, temperature range 60 - 90 deg C, influence of the ionic strength and dielectric constant of the medium; Rate constantKineticsMechanism;	**Ozerinina, T. V.; L'vova, M. Sh.; Kozlov, E. I.** Pharmaceutical Chemistry Journal, **1984** , vol. 18, # 7 p. 505 - 511 Khimiko-Farmatsevticheskii Zhurnal, **1984** , vol. 18, # 7 p. 865 - 870 Title/Abstract Full Text View citing articles Show Details

54

A B



Synthesize
Find similar

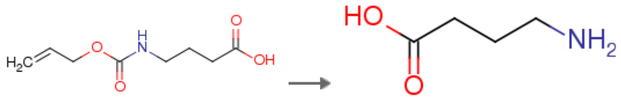
Synthesize
Find similar

Synthesize
Find similar

Rx-ID: 2139215
Find similar reactions

	With hydroxylamine hydrochloride; maleic acid disodium salt; magnesium chloride **in** water T=37°C; 0.333333 h; β-glutamyl transpeptidase (γ-GT), pH 8.0; relative activities of the various γ-glutamyl derivatives compared to S-methylglutathione;	**Magnan, Sanne D. J.; Shirota, Frances N.; Nagasawa, Herbert T.** Journal of Medicinal Chemistry, **1982** , vol. 25, # 9 p. 1018 - 1021 Title/Abstract Full Text View citing articles Show Details

55



Synthesize
Find similar

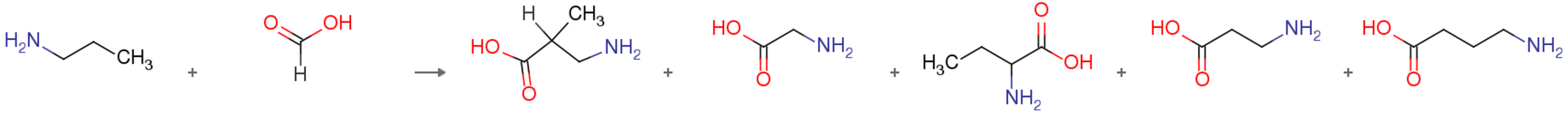
Synthesize
Find similar

Rx-ID: 2539831
Find similar reactions

92%	**With** tetrakis(triphenylphosphine) palladium$^{(0)}$; 2-ethyl-1-hexanoic	**Jeffrey, Paul D.; McCombie, Stuart W.**

		acid; triphenylphosphine **in** diethyl ether; dichloromethane T=25°C; 18 h;	Journal of Organic Chemistry, **1982** , vol. 47, # 3 p. 587 - 590 Title/Abstract Full Text View citing articles Show Details

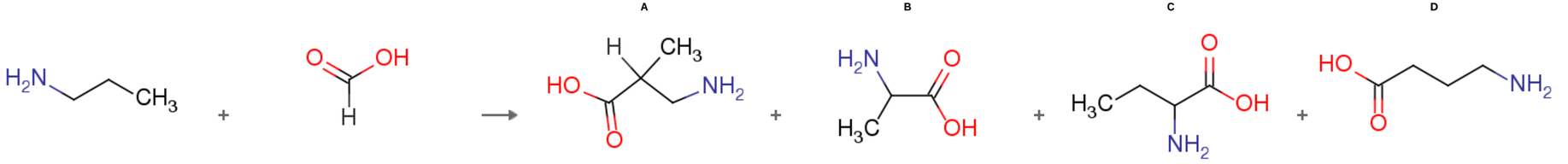
56



Rx-ID: 1604060
Find similar reactions

A: 9.8% B: 0.2% C: 0.9% D: 3.4% E: 8.1%	**in** water T=10 - 20°C; 1 h; contact glow discharge electrolysis; variation of pH, effect of time; Product distribution;	**Terasawa, Jun-ichi; Harada, Kaoru** Chemistry Letters, **1980** , p. 73 - 76 Title/Abstract Full Text Show Details

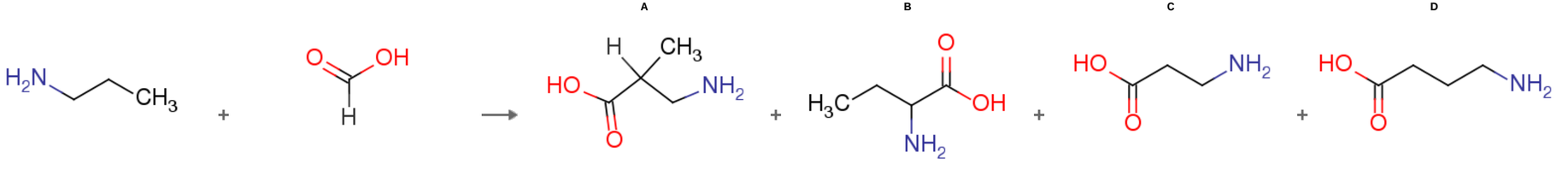
57



Rx-ID: 1604061
Find similar reactions

A: 9.8% B: 3.4% C: 0.9% D: 8.1%	**in** water T=10 - 20°C; 1 h; contact glow discharge electrolysis (500-600 V, 45 mA); Further byproducts given;	**Terasawa, Jun-ichi; Harada, Kaoru** Chemistry Letters, **1980** , p. 73 - 76 Title/Abstract Full Text Show Details

58

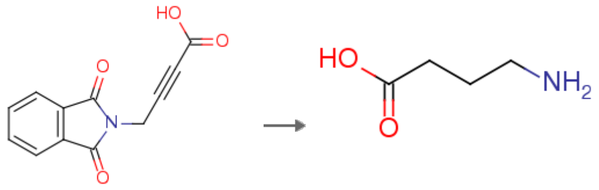


Rx-ID: 1604062

Find similar reactions

A: 9.8% B: 0.9% C: 3.4% D: 8.1%	**in** water T=10 - 20°C; 1 h; contact glow discharge electrolysis (500-600 V, 45 mA); Further byproducts given;	**Terasawa, Jun-ichi; Harada, Kaoru** Chemistry Letters, **1980** , p. 73 - 76 Title/Abstract Full Text Show Details
A: 9.8% B: 0.9% C: 3.4% D: 8.1%	**in** water T=10 - 20°C; 1 h; contact glow discharge electrolysis (500-600 V, 45 mA); Further byproducts given;	**Terasawa, Jun-ichi; Harada, Kaoru** Chemistry Letters, **1980** , p. 73 - 76 Title/Abstract Full Text Show Details

59



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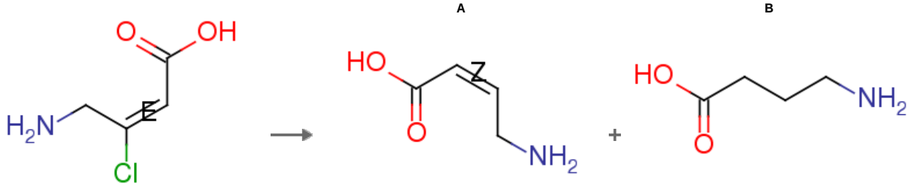
Synthesize
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Rx-ID: 2842279
Find similar reactions

	With hydrogenchloride; hydrogen; palladium on activated charcoal 1.) ethyl acetate, 1 at, 4 h, 2.) reflux, 20 h; Yield given. Multistep reaction;	**Allan; Johnston; Twitchin** Australian Journal of Chemistry, **1980** , vol. 33, # 5 p. 1115 - 1122 Title/Abstract Full Text View citing articles Show Details

60

A B



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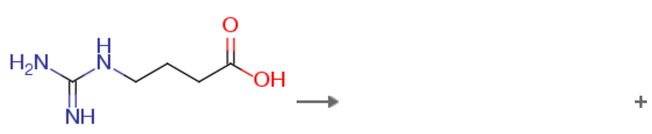
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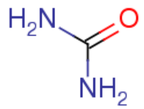
Rx-ID: 3032739
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	With sodium hydroxide; sodium amalgam 0.75 h; Yield given;	**Allan; Johnston; Twitchin** Australian Journal of Chemistry, **1980** , vol. 33, # 5 p. 1115 - 1122 Title/Abstract Full Text View citing articles Show Details

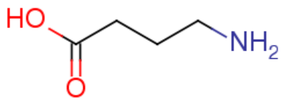
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A B





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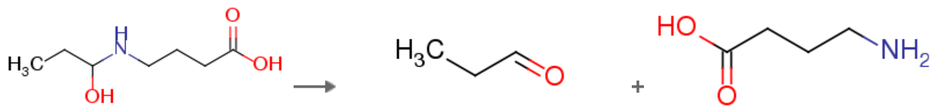
Rx-ID: 3958107
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enzyme assay; 4-guanidinobutyrate amidinohydrolase (EC 3.5.3.7) from Pseudomonas sp. ATCC 14676; Michaelis const.; substrate specificity;

Yorifuji, Takamitsu; Kato, Masashi; Kobayashi, Tohru; Ozaki, Sinzo; Ueno, Shigenori
Agricultural and Biological Chemistry, **1980** , vol. 44, # 5 p. 1127 - 1134
Title/Abstract Full Text Show Details

62

A B



Synthesize
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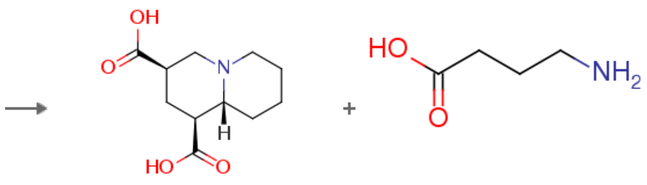
Rx-ID: 1058195
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T=0 - 25°C; Equilibrium constant;

Bordat,C. et al.
Comptes Rendus des Seances de l'Academie des Sciences, Serie C: Sciences Chimiques, **1975** , vol. 281, p. 579 - 582
Full Text View citing articles Show Details

63

A B



Synthesize
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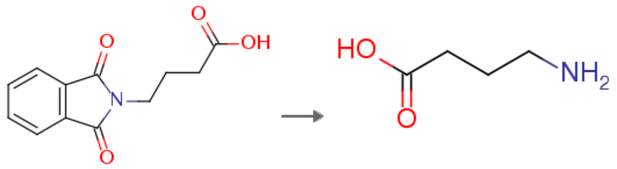
Synthesize
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Rx-ID: 5714625
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With chromium(VI) oxide; sulfuric acid

Sadykow; Nuriddinow
Doklady Akademii Nauk SSSR, **1955** , vol. 102, p. 755,756
Chem.Abstr., **1956** , p. 4995
Full Text Show Details
Okuda et al.
Chemical and Pharmaceutical Bulletin, **1965** , vol. 13, p. 491,494
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64



Synthesize
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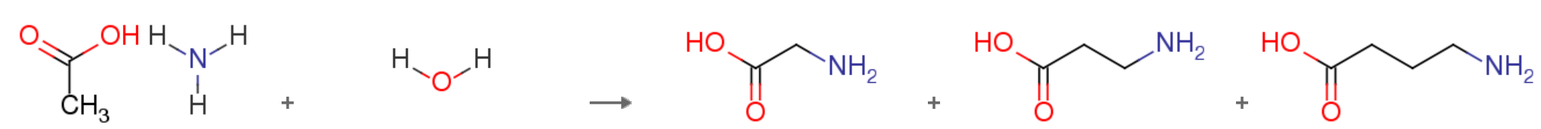
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Rx-ID: 317240
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	With hydrogenchloride	**Talbot et al.** Canadian Journal of Chemistry, **1958** , vol. 36, p. 593,594 Full Text Show Details **Frankel et al.** Bl.Res.Coun.Israel <A>, **1957** , vol. 7, p. 173,177 Full Text Show Details
	With hydrogen bromide	**Talbot et al.** Canadian Journal of Chemistry, **1958** , vol. 36, p. 593,594 Full Text Show Details **Frankel et al.** Bl.Res.Coun.Israel <A>, **1957** , vol. 7, p. 173,177 Full Text Show Details

65

A B C



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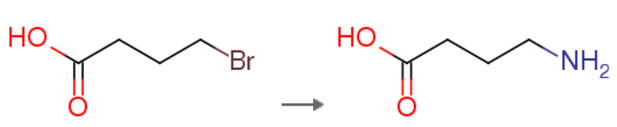
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Rx-ID: 8264165
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	Roentgen-Strahlen Irradiation;	**Dose; Ettre** Zeitschrift fuer Naturforschung, **1958** , vol. 13b, p. 784,786 Full Text Show Details

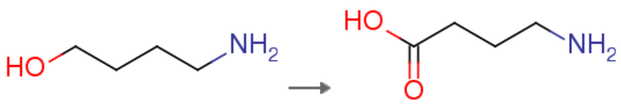
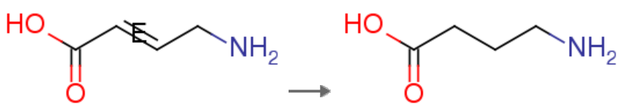
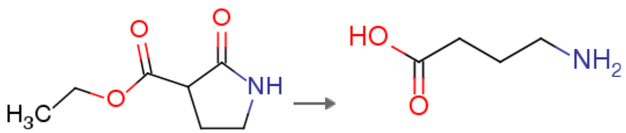
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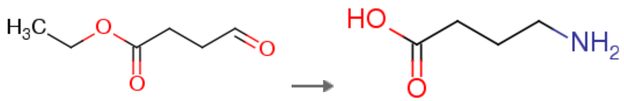
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Rx-ID: 227297
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	With ammonia; water	**Miki** Nippon Nogei Kagaku Kaishi, **1956** , vol. 30, p. 778 Chem.Abstr., **1958** , p. 9960 Full Text Show Details
67	 Synthesize Find similar Synthesize Find similar Rx-ID: 212867 Find similar reactions	
	With sulfuric acid bei der elektrochemischen Oxidation an einer Blei-Anode;	**Mizuno; Ishikawa** Bl.Nagoya Inst.Technol.Chem.Abstr., **1955** , vol. 7, p. 277,279 Bl.Nagoya Inst.Technol.Chem.Abstr., **1956** , p. 9181 Full Text Show Details
68	 Synthesize Find similar Synthesize Find similar Rx-ID: 198788 Find similar reactions	
	With palladium on activated charcoal; water Hydrogenation;	**Musashi** Hoppe-Seyler's Zeitschrift fuer Physiologische Chemie, **1954** , vol. 297, p. 71 Full Text View citing articles Show Details
69	 Synthesize Find similar Synthesize Find similar Rx-ID: 120995 Find similar reactions	
	With hydrogenchloride	**Kato et al.** Nippon Nogei Kagaku Kaishi, **1953** , vol. 27, p. 500 Chem.Abstr., **1955** , p. 3006 Full Text Show Details

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Synthesize
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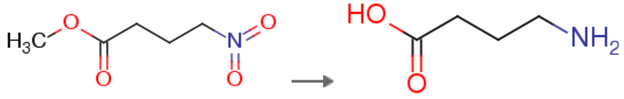
Synthesize
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Rx-ID: 237316
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With ethanol; ammonia; nickel
Hydrogenation;

Kato et al.
Nippon Nogei Kagaku Kaishi, **1953** , vol. 27, p. 500
Chem.Abstr., **1955** , p. 3006
Full Text Show Details

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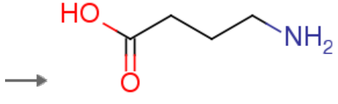
Synthesize
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Rx-ID: 242662
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With nickel
Hydrogenation;

Kato et al.
Nippon Nogei Kagaku Kaishi, **1953** , vol. 27, p. 500
Chem.Abstr., **1955** , p. 3006
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72



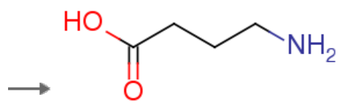
Synthesize
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Rx-ID: 6188527
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With methanol; ammonia; nickel
Hydrogenation;

Sorm; Beranek
Chemicke Listy, **1953** , vol. 47, p. 1241
Chem.Abstr., **1955** , p. 860
Full Text Show Details

73



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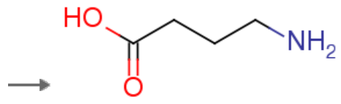
Rx-ID: 6188525
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With pyridine; ammonium polysulfide; sulfur
T=160°C;

Ruhrchemie A.G.
Patent: DE929191 , **1952** ;

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74



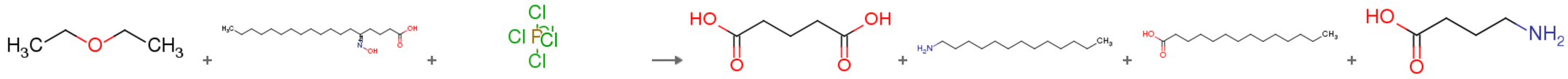
Synthesize
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Rx-ID: 6188523
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With diethyl ether; phosphorus pentachloride
Erhitzen des Reaktionsprodukts mit konz.wss.HCl auf 160grad;

Hirata; Nakanishi
Bulletin of the Chemical Society of Japan, **1949** , vol. 22, p. 125
Chem.Abstr., **1950** , p. 6478
Full Text Show Details

75



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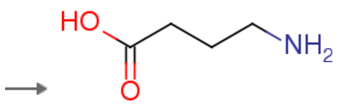
Synthesize
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Rx-ID: 7066220
Find similar reactions

anschliessendes Erhitzen mit konz. HCl auf 160grad;

Hirata; Nakanishi
Bulletin of the Chemical Society of Japan, **1949** , vol. 22, p. 125
Chem.Abstr., **1950** , p. 6478
Full Text Show Details

76

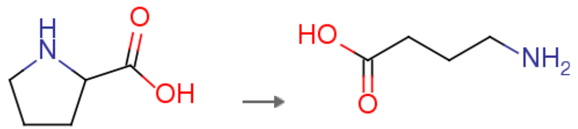


Synthesize
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Rx-ID: 6188522
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With sulfuric acid Darstellung;	**deWitt** Organic Syntheses, **1937** , vol. 17, p. 4 Full Text Show Details
With sulfuric acid anschliessend man kocht die Loesung 3 Stdn. lang am Kuehler;	**Gabriel** Chemische Berichte, **1889** , vol. 22, p. 3337 Chemische Berichte, **1890** , vol. 23, p. 1772 Full Text Show Details

77



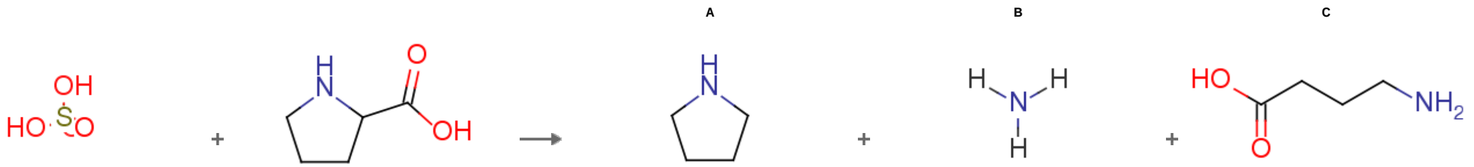
Synthesize
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Rx-ID: 806124
Find similar reactions

With sulfuric acid T=35°C; Electrolysis zwischen Blei und Bleidioxyd;	**Takayama** Bulletin of the Chemical Society of Japan, **1936** , vol. 11, p. 138,139 Full Text Show Details

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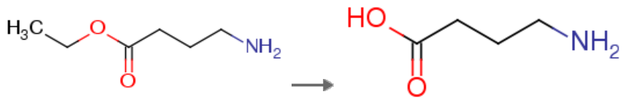
Synthesize
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Rx-ID: 5746026
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T=35°C; elektrochemische Oxidation;	**Takayama** Bulletin of the Chemical Society of Japan, **1936** , vol. 11, p. 138,139 Full Text Show Details

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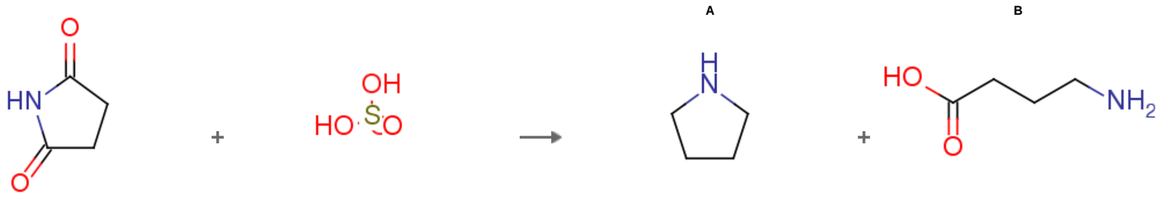
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Rx-ID: 232905
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With sulfuric acid

Merck,E.
Patent: DE597305 , **1931** ;
Fortschr. Teerfarbenfabr. Verw. Industriezweige, vol. 19, p. 1501
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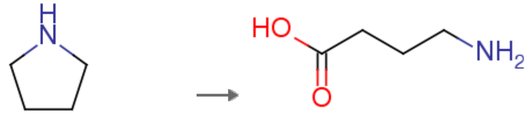
Synthesize
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Rx-ID: 5743943
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bei der elektrolitischen Reduktion an einer Blei-Kathode;

Spaeth; Breusch
Monatshefte fuer Chemie, **1928** , vol. 50, p. 352
Full Text Show Details
Tafel; Stern
Chemische Berichte, **1900** , vol. 33, p. 2235
Full Text Show Details
Emmert
Zeitschrift fuer Physikalische Chemie, Stoechiometrie und Verwandtschaftslehre, **1906** , vol. 54, p. 433
Full Text Show Details
Tafel; Naumann
Zeitschrift fuer Physikalische Chemie, Stoechiometrie und Verwandtschaftslehre, **1905** , vol. 50, p. 728
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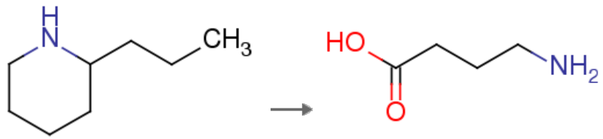
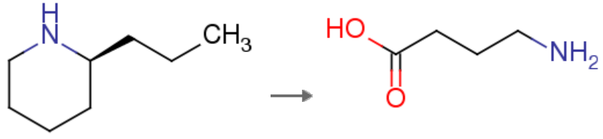
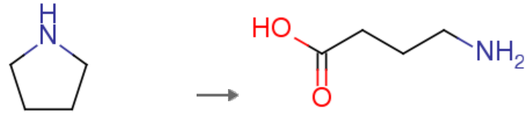
81



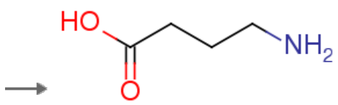
Synthesize
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Rx-ID: 4132
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		With chromium(VI) oxide; sulfuric acid	**Karrer; Widmer** Helvetica Chimica Acta, **1926** , vol. 9, p. 890 Full Text Show Details
82	 Synthesize Find similar Synthesize Find similar Rx-ID: 803987 Find similar reactions		
		With chromium(VI) oxide; sulfuric acid	**Karrer; Widmer** Helvetica Chimica Acta, **1926** , vol. 9, p. 890 Full Text Show Details
83	 Synthesize Find similar Synthesize Find similar Rx-ID: 5714623 Find similar reactions		
			Karrer; Widmer Helvetica Chimica Acta, **1926** , vol. 9, p. 890 Full Text Show Details
84	 Synthesize Find similar Synthesize Find similar Rx-ID: 5714624 Find similar reactions		
		48-stdg. Kochen;	**Karrer; Widmer** Helvetica Chimica Acta, **1926** , vol. 9, p. 890 Full Text Show Details

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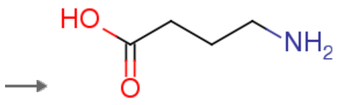


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Rx-ID: 6188524
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With chromium(VI) oxide; sulfuric acid	**Karrer; Widmer** Helvetica Chimica Acta, **1926** , vol. 9, p. 890 Full Text Show Details

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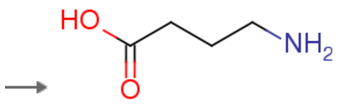


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Rx-ID: 6188526
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With nitric acid Erhitzen der entstandenen fluessigen Verbindung mit Baryt-wasser;Darstellung;	**Abderhalden; Pieper; Tateyama** Fermentforschung, vol. 8, p. 580 Chem. Zentralbl., **1926** , vol. 97, # II p. 779 Full Text Show Details

87

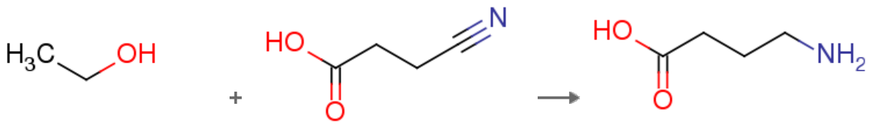


Synthesize
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Rx-ID: 6188529
Find similar reactions

With chromium(VI) oxide; sulfuric acid	**Karrer; Widmer** Helvetica Chimica Acta, **1926** , vol. 9, p. 890 Full Text Show Details

88



Synthesize
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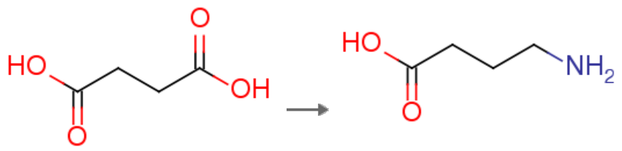
Synthesize
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Synthesize
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Rx-ID: 7066219
Find similar reactions

Dakin
Biochemical Journal, **1917** , vol. 11, p. 84
Full Text Show Details

89



Synthesize
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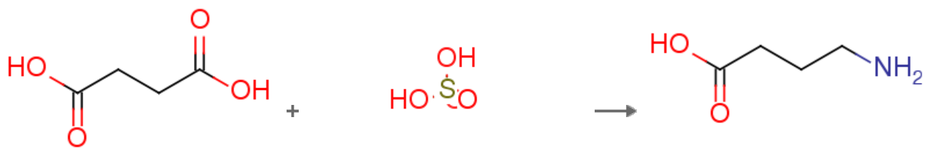
Synthesize
Find similar

Rx-ID: 236275
Find similar reactions

With ammonium sulfate; sulfuric acid
bei der elektrolytischen Reduktion;

Loeb
Biochemische Zeitschrift, **1914** , vol. 60, p. 165
Full Text Show Details

90



Synthesize
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Synthesize
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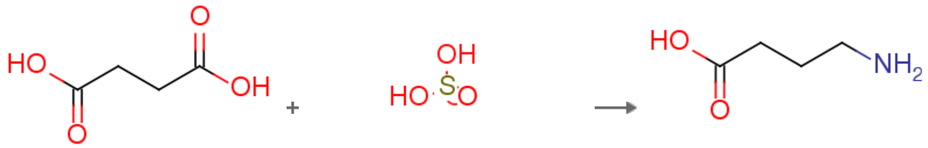
Synthesize
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Rx-ID: 7066217
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Electrolysis;

Loeb
Biochemische Zeitschrift, **1914** , vol. 60, p. 165
Full Text Show Details

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Synthesize
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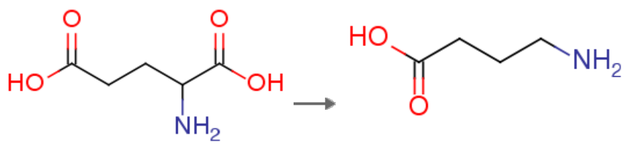
Synthesize
Find similar

Synthesize
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Rx-ID: 7066218
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	Electrolysis;	**Loeb** Biochemische Zeitschrift, **1914** , vol. 60, p. 165 Full Text Show Details

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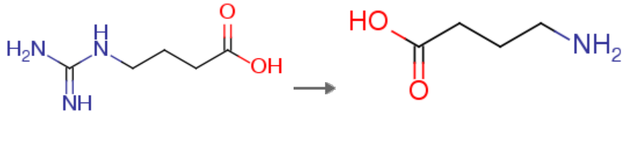
Synthesize
Find similar

Synthesize
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Rx-ID: 203289
Find similar reactions

	bei Faeulnis;	**Abderhalden; Kautzsch** Hoppe-Seyler's Zeitschrift fuer Physiologische Chemie, **1912** , vol. 81, p. 297 Full Text Show Details **Ackermann** Hoppe-Seyler's Zeitschrift fuer Physiologische Chemie, **1910** , vol. 69, p. 276 Hoppe-Seyler's Zeitschrift fuer Physiologische Chemie, **1910** , vol. 64, p. 92 Full Text Show Details **Abderhalden; Fromme; Hirsch** Hoppe-Seyler's Zeitschrift fuer Physiologische Chemie, **1913** , vol. 85, p. 132 Full Text Show Details

93



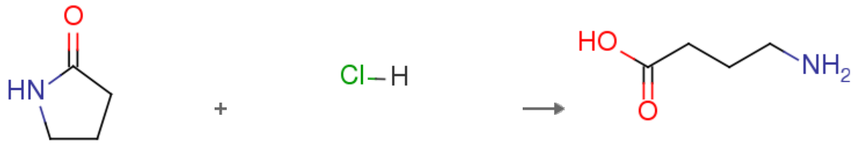
Synthesize
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Synthesize
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Rx-ID: 242886
Find similar reactions

	mit Leberpresssaft;	**Thomas** Hoppe-Seyler's Zeitschrift fuer Physiologische Chemie, **1913** , vol. 88, p. 471 Full Text Show Details

94



Synthesize
Find similar

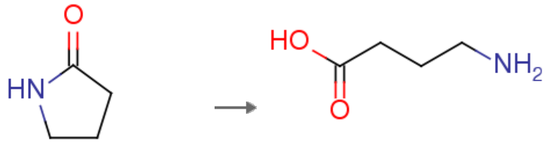
Synthesize
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Synthesize
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Rx-ID: 5714620
Find similar reactions

Tafel; Stern
Chemische Berichte, **1900** , vol. 33, p. 2235
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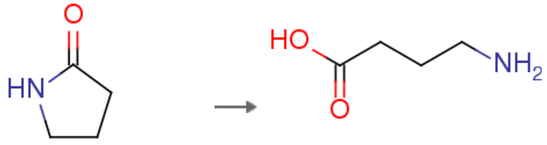
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Rx-ID: 5714621
Find similar reactions

Tafel; Stern
Chemische Berichte, **1900** , vol. 33, p. 2235
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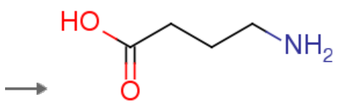
Synthesize
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Rx-ID: 5714622
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Tafel; Stern
Chemische Berichte, **1900** , vol. 33, p. 2235
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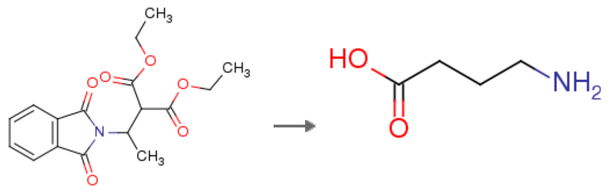
Synthesize
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Rx-ID: 6188528
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With barium dihydroxide; water

Tafel; Stern
Chemische Berichte, **1900** , vol. 33, p. 2235
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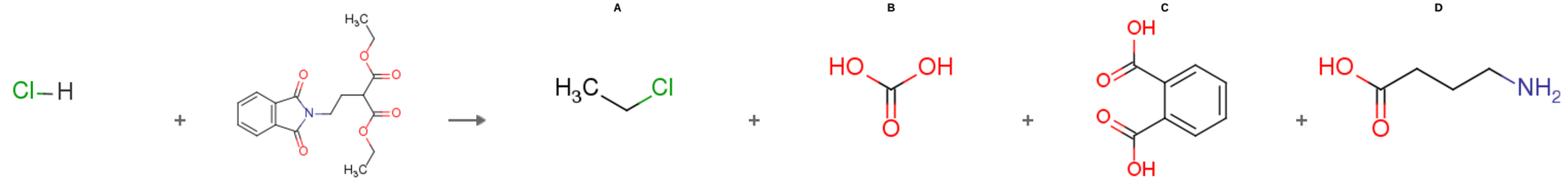
Synthesize
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Rx-ID: 431368
Find similar reactions

With hydrogenchloride
T=170 - 180°C;

Aschan,W.
Chemische Berichte, **1891** , vol. 24, p. 2450
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99



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Synthesize
Find similar

Synthesize
Find similar

Synthesize
Find similar

Synthesize
Find similar

Synthesize
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Rx-ID: 5714628
Find similar reactions

T=170 - 180°C;

Aschan
Chemische Berichte, **1891** , vol. 24, p. 2448
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