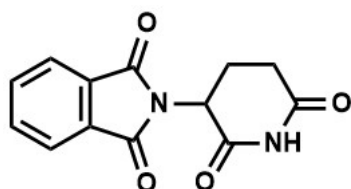


Thalidomide



thalidomide



Related review in Science of Synthesis

- Imides (Diacylamines)

Synonyms: K-17, NSC-66847

ATC: L04AX02

Use: anti-inflammatory, immunomodulator, blocker of TNF-production, sedative, treatment of erythema nodosum leprosum

Chemical name: 2-(2,6-Dioxo-3-piperidinyl)-1*H*-isoindole-1,3(2*H*)-dione

Formula: C₁₃H₁₀N₂O₄

MW: 258.23 g/mol

CAS-RN: 50-35-1

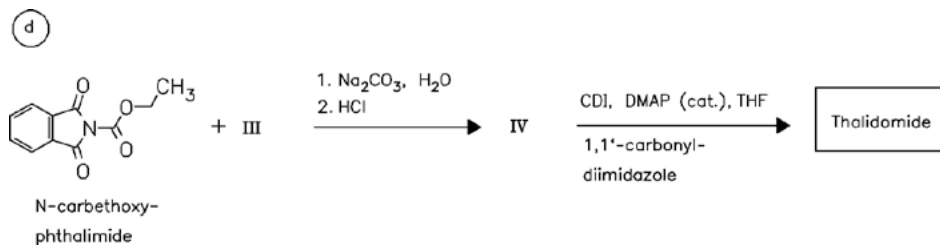
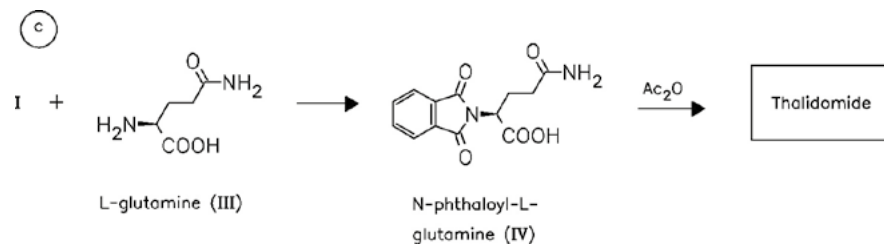
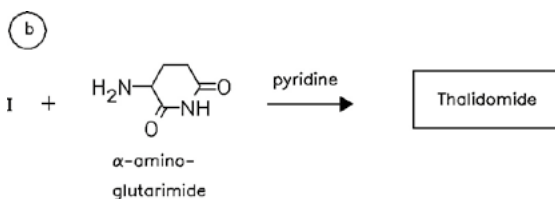
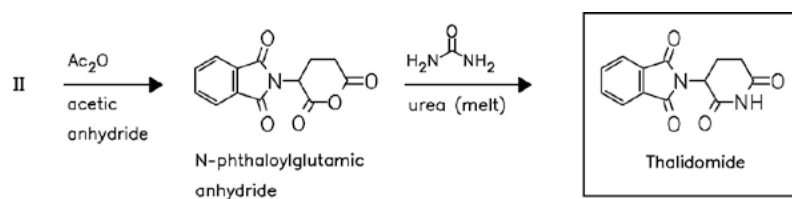
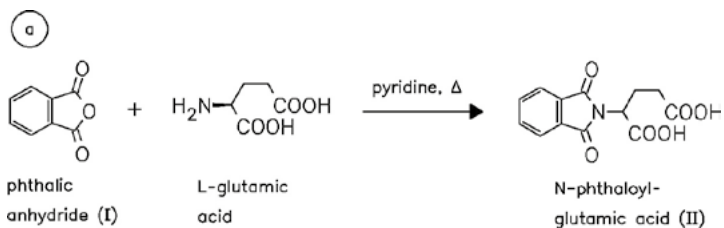
InChI Key: UEJJHQNACJXSKW-UHFFFAOYSA-N

InChI: InChI=1S/C13H10N2O4/c16-10-6-5-9(11(17)14-10)15-12(18)7-3-1-2-4-8(7)13(15)19/h1-4,9H,5-6H2,(H,14,16,17)

EINECS: 200-031-1

LD₅₀: >5000 mg/kg (M, p. o.)

Synthesis Path



Substances Referenced in Synthesis Path

CAS-RN	Formula	Chemical Name	CAS Index Name
108-24-7	C ₄ H ₆ O ₃	acetic anhydride	Acetic acid, anhydride
2353-44-8	C ₅ H ₈ N ₂ O ₂	α-aminoglutarimide	2,6-Piperidinedione, 3-amino-
22509-74-6	C ₁₁ H ₉ NO ₄	<i>N</i> -carbethoxyphthalimide	2H-Isoindole-2-carboxylic acid, 1,3-dihydro-1,3-dioxo-, ethyl ester
22509-74-6	C ₁₁ H ₉ NO ₄	<i>N</i> -ethoxycarbonylphthalimide	2H-Isoindole-2-carboxylic acid, 1,3-dihydro-1,3-dioxo-, ethyl ester
56-86-0	C ₅ H ₉ NO ₄	L-glutamic acid	L-Glutamic acid
56-85-9	C ₅ H ₁₀ N ₂ O ₃	L-glutamine	L-Glutamine
85-44-9	C ₈ H ₄ O ₃	phthalic anhydride	1,3-Isobenzofurandione
6349-98-0	C ₁₃ H ₁₁ NO ₆	<i>N</i> -phthaloylglutamic acid	Pentanedioic acid, 2-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)-
3343-28-0	C ₁₃ H ₉ NO ₅	<i>N</i> -phthaloylglutamic anhydride	1H-Isoindole-1,3(2H)-dione, 2-(tetrahydro-2,6-dioxo-2H-pyran-3-yl)-
3343-29-1	C ₁₃ H ₁₂ N ₂ O ₅	<i>N</i> -phthaloyl-L-glutamine	2H-Isoindole-2-acetic acid, α-(3-amino-3-oxopropyl)-1,3-dihydro-1,3-dioxo-, (αS)-
57-13-6	CH ₄ N ₂ O	urea	Urea

Trade Names

Country	Trade Name	Vendor
USA	Thalomid	Celgene, 1998

Formulations

cps. 50 mg

References

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c King, F.E. et al.: *J. Chem. Soc. (JCSOA9)* **1957**, 873-880.

d Muller, G.W. et al.: *Org. Process Res. Dev. (OPRDFK)* **3**, 139-140 (1999).

a GB 768 821 (Chemie Grünenthal; 20.2.1957).

b JP 5 071 (Dainippon; 13.5.1960).

microwave promoted synthesis:

Seijas, J.A. et al.: *Synthesis (SYNTBF)* **7**, 999 (2001).

intravenous administration form for treatment of immunologic diseases:

EP 908 176 (Grünenthal; appl. 18.9.1998; D-prior. 6.10.1997).

pharmaceutical comp. for the treatment of melanomas:

US 5 731 325 (Andrulis Pharm.; 24.3.1998; USA-prior. 6.6.1995).

use for treating neurocognitive disorders:

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treatment of rheumatoid arthritis:

WO 9 504 533 (Andrulis Pharm.; appl. 3.8.1994; USA-prior. 4.8.1993).

controlling abnormal concentration of TNF-α:

WO 9 214 455 (Rockefeller Univ.; appl. 14.2.1992; USA-prior. 14.2.1991).