

Title (en)

A process for electrolytic reduction of cephalosporin p-nitrobenzyl esters.

Title (de)

Verfahren zur elektrolytischen Reduktion von Cephalosporin-p-nitrobenzilestern.

Title (fr)

Procédé de réduction électrolytique de céphalosporine p-nitrobenzyl-esters.

Publication

**EP 0038626 A1 19811028 (EN)**

Application

**EP 81301187 A 19810319**

Priority

US 13582980 A 19800331

Abstract (en)

A process is described for removing the p-nitrobenzylester protecting group from a cephalosporin 4-carboxylic acid pNB ester and thereby liberating the free cephalosporin 4-carboxylic acid; characterized in that the p-nitrobenzylester is electrolytically reduced in an acidic liquid medium comprising from about 0 to about 50% water, and acid having a pKa determined in water of 0 or below, the amount of said acid being at least four moles per mole of the compound to be reduced, and an organic solvent substantially inert to electrolytic reduction, at the working electrode of an electrolytic cell, said working electrode substantially comprising carbon, mercury, tin, aluminium, silver, copper, lead, chromium, zinc, nickel or cadmium, at a temperature from about 0 DEG C. to about 75 DEG C., at a potential in a range from about the potential (A) of the initial onset of current flow of the first reduction to about the potential (B) of the initial onset of current flow of the second reduction.

IPC 1-7

**C25B 3/04**; **C07D 501/00**

IPC 8 full level

**C07D 501/04** (2006.01); **C25B 3/25** (2021.01)

CPC (source: EP)

**C25B 3/25** (2021.01)

Citation (search report)

- US 3632850 A 19720104 - GARBRECHT WILLIAM L
- US 4042472 A 19770816 - HALL DAVID A
- Techniques of Chemistry, Vol. V, Part II, Technique of Electro-Organic Synthesis, Edited by N.L. Weinberg Electrochemical Reduction of Nitrocompounds pages 137-140 John Wiley & Sons
- Angew. Chem. Int. ED. Engl., Vol. 15 (1976), No. 5 V.G. MAIRANOVSKY: "Electro-Deprotection/Electrochemical Removal of Protecting Groups", pages 281-292 \* paragraph 3.3., pages 285-286 table 2, page 290 \*

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**EP 81301187 A 19810319**; CA 373328 A 19810318; GB 8108645 A 19810319; HU 72781 A 19810320; IL 6242781 A 19810319; JP 4383581 A 19810324; KR 810000929 A 19810320