

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 37

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte PAUL J. REIDER and EDWARD J. GRABOWSKI

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Appeal No. 95-3156  
Application No. 07/898,348<sup>1</sup>

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ON BRIEF

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Before WINTERS and WILLIAM F. SMITH, Administrative Patent Judges, and McKELVEY, Senior Administrative Patent Judge.

WINTERS, Administrative Patent Judge.

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<sup>1</sup> Application for patent filed June 12, 1992. According to appellants, this application is a continuation of Application No. 07/825,797, filed January 21, 1992; which is a continuation of Application No. 07/744,664, filed August 9, 1991; which is a continuation of Application No. 07/559,807, filed July 30, 1990; which is a division of Application No. 07/463,020, filed January 10, 1990; which is a continuation-in-part of Application No. 06/367,532, filed April 12, 1982; which is a continuation-in-part of Application No. 06/314,152, filed October 23, 1981; all of which have been abandoned.

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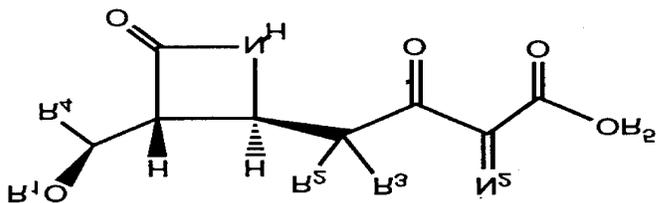
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DECISION ON APPEAL

This appeal was taken from the examiner's decision rejecting claims 8, 20, 22 and 23, which are all of the claims remaining in the application.

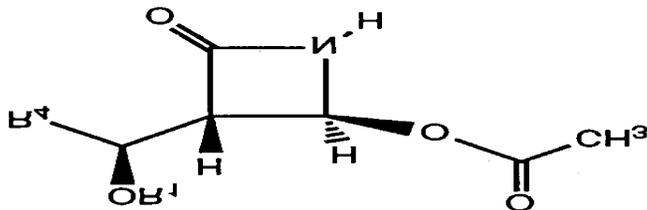
Claim 22, which is illustrative of the subject matter on appeal, reads as follows:

22. A process of synthesizing a carbapenem intermediate of the formula:



comprising:

treating a N-deprotected acetoxy compound of the formula:



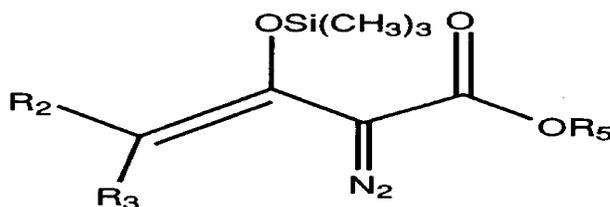
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wherein  $R_1$  is H, trialkylsilyl, triarylsilyl, diarylalkylsilyl or aryldialkylsilyl, wherein the alkyl portions of said groups contain 1-4 carbon atoms, and the aryl portions of said groups are selected from the group consisting of phenyl, p-nitrobenzylcarbonate or phenyl substituted with one to three groups selected from  $C_1$  to  $C_3$  alkyl, halo, trifluoromethyl, amino, cyano and nitro;

$R_4$  represents  $C_{1-4}$  alkyl,  $C_{2-4}$  alkenyl, phenyl, phenyl substituted by one to three groups selected from  $C_1$  to  $C_3$  alkyl, halo, trifluoromethyl, amino, cyano and nitro,

with  
enolether

a silyl  
of the formula:



wherein:

$R_2$  and  $R_3$  are independently H,  $C_1$  to  $C_4$  alkyl,  $C_2$  to  $C_4$  alkenyl, benzyl or phenethyl; and

$R_5$  represents benzyl, allyl,  $C_{1-4}$  alkyl, or p-nitrobenzyl, in the presence of a Lewis acid selected from the group consisting of zinc halide, boron trifluoride etherate, titanium tetra-chloride, stannic chloride and aluminum chloride

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or a silylating agent having sufficient reactivity to yield said intermediate.

The references relied on by the examiner are:

Liu et al. (Liu) 4,287,123 Sep. 1, 1981  
Christensen et al. (Christensen) 4,290,947 Sep. 22, 1981  
T.H. Chan et al. (Chan), "t-Butylation of Aldehydes and Ketones by the Friedel-Crafts Alkylation of Trimethylsilyl Enol Ethers," Tetrahedron Letters no. 48, 4183-86 (Pergamon Press Ltd. 1977)

Ian Paterson, "Alkylation of Ketones, Esters, and Lactones Zinc Bromide-Catalysed Alkylation of o-Silylated Enolates, A Synthesis of (±)-AR-Turmerone. Tetrahedron Letters no. 17, 1519-20 (Pergamon Press Ltd. 1979)

M.T. Reetz (Reetz I), Chemical Abstract 95:42446s (1981)

Manfred T. Reetz et al. (Reetz II), *tert*-Alkylation of Ketones and Aldehydes, 17 Angew. Chem. Int. Ed. Engl. no. 1, pg. 48-9 (1978)

Jerald K. Rasmussen, "O-Silylated Enolates - Versatile Intermediates for Organic Synthesis," Synthesis 91, 98 and 99 (Feb. 1977)

S. Oida, "Penems, Synthetic Approach to Thienamycin Analogues," Ch. 27, pp. 331-48 (1958).

The appealed claims stand rejected as follows: (1) claims 8 and 22 under 35 U.S.C. § 103 as unpatentable over Chan, Paterson, Reetz I, Reetz II, or Rasmussen; (2) claim 20 under 35 U.S.C. § 103 as unpatentable over Chan, Paterson, Reetz I, Reetz II, or Rasmussen, either of those "primary" references considered in view of Oida, Christensen, or Liu;

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and (3) claim 23 under 35 U.S.C. § 103 as unpatentable over Chan, Paterson, Reetz I, Reetz II, or Rasmussen, either of those "primary" references considered in view of Christensen or Liu.

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DISCUSSION

On consideration of the record, we find that the examiner's obviousness rejections are predicated on case law enunciated in In re Durden, 763 F.2d 1406, 226 USPQ 359 (Fed. Cir. 1985) and in In re Albertson, 332 F.2d 379, 141 USPQ 730 (CCPA 1964). The rationale of those cases, however, has been overtaken by events. See In re Ochiai, 71 F.3d 1565, 37 USPQ2d 1127, 1132-33 (Fed. Cir. 1995); and In re Brouwer, 77 F.3d 422, 425-26, 37 USPQ2d 1663, 1666 (Fed. Cir. 1995). We reverse the examiner's rejections based on Ochiai and Brouwer.

REVERSED

	SHERMAN D. WINTERS	)	
	Administrative Patent Judge	)	
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		)	
	WILLIAM F. SMITH	)	BOARD OF
PATENT	Administrative Patent Judge	)	APPEALS AND
		)	INTERFERENCES
		)	
		)	
	FRED E. McKELVEY	)	
	Senior, Administrative Patent Judge	)	

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