Exhibit B

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW JERSEY

UNITED THERAPEUTICS CORPORATION,	)	
Plaintiff and Counterclaim-Defendant,	)	
v.	)	Civil Action No. 3:14-cv-5499 (PGD)(LHG)
SANDOZ INC.,	)	
Defendant and Counterclaim-Plaintiff.	)	

DECLARATION OF CLAYTON H. HEATHCOCK, Ph.D.

I, Clayton H. Heathcock, hereby declare as follows:

1. I have been retained by Sandoz Inc. as an expert in the above captioned matter. I submit this declaration in support of Sandoz's Opening Claim Construction Brief.

2. I have a Ph.D. in Chemistry from the University of Colorado, which I obtained in 1963. I held various professorial ranks in the Department of Chemistry at the University of California at Berkeley from 1964 through 2004. I was Dean of the College of Chemistry from 1999 through 2005 and Chief Scientist of QB3 Berkeley, a branch of the California Institute for Quantitative Bioscience from 2005 to 2008. I am currently Emeritus Professor.

3. For the more than 50 years, I conducted research in organic chemistry. In particular, my work focused on the chemical synthesis of complex, polycyclic natural products.

4. I have published over 280 research papers and book chapters. I have served as Chair of the Division of Organic Chemistry of the American Chemical Society, Chair of the National Institutes of Health Medicinal Chemistry Study Section, Chair of the Gordon Research Conference on Stereochemistry, Chair of the Chemistry Division of the American Association for the Advancement of Science, and Editor-in-Chief of the *Journal of Organic Chemistry* and of the annual publication *Organic Syntheses*. I have received numerous awards and honors for my work in the field of chemistry. Noteworthy examples include the Ernest Guenther Award (ACS) (1986); ACS Award for Creative Work in Organic Synthesis (1990); A.C. Cope Scholar (1990); Prelog Medal, ETH (1991); American Academy of Art and Sciences (1991); National Academy of Sciences (1995); Centenary Medal, Royal Society of Chemistry (1996); H.C. Brown Award (ACS) (2002); Paul Gassman Award for Distinguished Service (ACS) (2004). Additional information regarding my background, experience, and credentials is set forth in my curriculum vitae, which is attached as Exhibit 1 to this declaration.

I. THE '393 PATENT

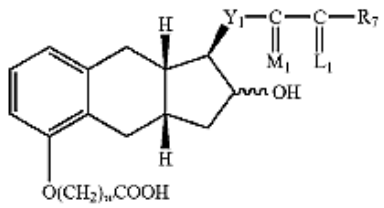
5. U.S. Patent No. 8,497,393 ("the '393 patent") is entitled "Process to prepare treprostinil, the active ingredient in Remodulin®."[1] I understand that the '393 patent issued on July 30, 2013 and claims priority to a provisional application filed on December 17, 2007.

6. The '393 patent has a total of 22 claims. I understand that UTC has asserted six claims in the present litigation: claims 1, 2, 4, 8, 9 and 16.

7. Claim 1 recites as follows:

1. A product comprising a compound of formula I

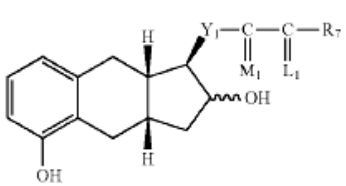
(I)



or a pharmaceutically acceptable salt thereof, wherein said product is prepared by a process comprising

(a) alkylating a compound of structure II with an alkylating agent to produce a compound of formula III,

(II)



wherein

w=1, 2, or 3;

Y_1 is trans-CH=CH—, cis-CH=CH—, $—CH_2(CH_2)_m—$, or —C≡C—; m is 1, 2, or 3;

R_7 is

(1) $—C_pH_{2p}—CH_3$, wherein p is an integer from 1 to 5, inclusive,

(2) phenoxy optionally substituted by one, two or three chloro, fluoro, trifluoromethyl, $(C_1$-$C_3)$ alkyl, or $(C_1$-$C_3)$ alkoxy, with the proviso that not more than two substituents are other than alkyl, with the proviso that R_7 is phenoxy or substituted phenoxy, only when R_3 and R_4 are hydrogen or methyl, being the same or different,

(3) phenyl, benzyl, phenylethyl, or phenylpropyl optionally substituted on the aromatic ring by one, two or three chloro, fluoro, trifluoromethyl, $(C_1$-$C_3)$alkyl, or $(C_1$-$C_3)$alkoxy, with the proviso that not more than two substituents are other than alkyl,

(4) cis-CH=CH—CH_2—CH_3,

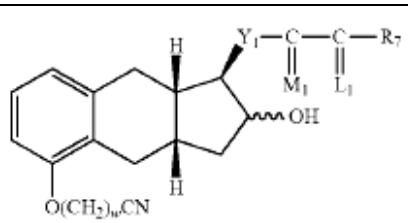
(5) $—(CH_2)_2—CH(OH)—CH_3$, or

(6) $—(CH_2)_3—CH=C(CH_3)_2$;

$—C(L_1)—R_7$ taken together is

(1) $(C_4$-$C_7)$cycloalkyl optionally substituted by 1 to 3 $(C_1$-$C_5)$ alkyl;

[1] A copy of the '393 patent is attached as Exhibit 2 to my Declaration.

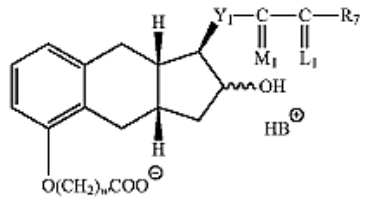


(III)

(2) 2-(2-furyl)ethyl,
(3) 2-(3-thienyl)ethoxy, or
(4) 3-thienyloxymethyl;
M_1 is α-OH:β-R_5 or α-R_5β-OH or α-OR_1:β-R_5 or α-R_5:β-OR_2, wherein R_5 is hydrogen or methyl, R_2 is an alcohol protecting group, and
L_1 is α-R_3:β-R_4, α-R_4:β-R_3, or a mixture of α-R_3:β-R_4 and α-R_4:β-R_3, wherein R_3 and R_4 are hydrogen, methyl, or fluoro, being the same or different, with the proviso that one of R_3 and R_4 is fluoro only when the other is hydrogen or fluoro,

(b) hydrolyzing the product of formula III of step (a) with a base,

(c) contacting the product of step (b) with a base B to form a salt of formula I_s.



(I_s)

and

(d) optionally reacting the salt formed in step (c) with an acid to form the compound of formula I.

8. Claim 1 is drawn to a product comprising a compound of a genus that includes the treprostinil compound, or a pharmaceutically acceptable salt thereof.

9. Claim 9 is identical to claim 1 except that it is drawn to a product comprising the specific treprostinil compound, a species of the genus of claim 1, made by the same process.

10. Each of the independent claims 1 and 9 includes limitations that the claimed compound is made by a process comprising three specified steps: (a) alkylating a benzindene triol to form a benzindene nitrile intermediate; (b) hydrolyzing the benzindene nitrile with a base to form treprostinil acid; and (c) contacting the treprostinil acid with a base to form treprostinil salt.

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