of animals<sup>534</sup> and then comparing these effects to the physiological and pharmacological effects of nicotine analogues synthesized by chemists at Philip Morris.<sup>535</sup> Dr. DeNoble's studies, which were conducted as part of the "Behavioral Pharmacology" Program at Philip Morris, were intended to characterize the pharmacologic effects of nicotine and then to identify those analogues that affected the central nervous system in the same way that nicotine affects the central nervous system. An internal Philip Morris document states:

Major objectives of the Behavioral Pharmacology Program are (1) To develop a better understanding of the reinforcing actions of nicotine and nicotine

Org. Chem. 1979;44(18):3136.

See DeNoble Declaration, note 524, supra, at p. 4.

DeNoble Declaration, note 524, supra, at pp. 2-9.

Work on nicotine analogues continued after Dr. DeNoble's departure from the company. *See* U.S. Patent No. 5,138,062, note 525, *supra*.; U.S. Patent No. 5,015,741, note 525, *supra*.; U.S. Patent No. 4,590,278. Edwards III WB. *Nicotine Analogues*. Philip Morris Inc. May 20, 1986.

Dunn WL. Philip Morris Inter-Office Correspondence to T.S. Osdene. *Possible Restructuring of the Behavioral Research Lab.* June 18, 1980. Page 100019244.

<sup>535</sup> See:

U.S. Patent No. 4,452,984. Edwards III WB. Optically Active Nicotine Analogues and Process For Their Preparation. Philip Morris Inc. June 5, 1984.

U.S. Patent No. 4,442,292. Edwards III WB. Optically Active Nicotine Analogues and Process For Their Preparation. Philip Morris Inc. April 10, 1984.

U.S. Patent No. 4,332,945. Edwards III WB. Optically Active Nicotine Analogues and Process For Their Preparation. Philip Morris Inc. June 1, 1982.

U.S. Patent No. 4,321,387. Chavdarian CG, Sanders EB. Process for the Preparation of Optically Active Nicotine Analogues. Philip Morris Inc. March 23, 1982.

U.S. Patent No. 4,220,781. Sanders EB, Secor HV, Seeman Jl. *Process for Preparing 2-ALKYL Nicotinoids*. Philip Morris Inc. September 2, 1980.

U.S. Patent No. 4,155,909. Sanders EB, Secor HV, Seeman JI. 2-ALKYL Nicotinoids and Processes For Their Production. Philip Morris Inc. May 22, 1979.