

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 32

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte PAMELA R. AUBURN and DAVID L. BEACH

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Appeal No. 95-2745  
Application 08/008,256<sup>1</sup>

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ON BRIEF

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Before DOWNEY, KIMLIN and WALTZ, Administrative Patent Judges.

DOWNEY, Administrative Patent Judge.

### DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the final rejection of claims 1-7, 9-19, 21-23 and 25-26, all the claims pending in the application.

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<sup>1</sup> Application for patent filed January 25, 1993. According to the appellants, the application is a continuation of Application 07/787,809, filed November 4, 1991, now abandoned.

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The subject matter on appeal is directed to a method of controlling the molecular weight distribution (MWD) of a polyalpha-olefin during polymerization.

All the claims stand or fall together. 37 CFR § 1.192(c)(7). Claim 1 is illustrative and reads as follows:

1. A method of controlling the molecular weight distribution of a polyalpha-olefin during polymerization, comprising changing the aluminoxane to chromium ratio of a polymerization catalyst comprising chromium and at least one aluminoxane during polymerization to thereby adjust the molecular weight distribution of the produced polyalphaolefin.

The references relied upon by the examiner are:

Manyik et al. (Manyik '550)	3,231,550	Jan. 25, 1966
Manyik et al. (Manyik '099)	3,242,099	Mar. 22, 1966

Claims 1-7, 9-19, 21-23 and 25-26 stand rejected under 35 U.S.C. § 103 as unpatentable over Manyik '550 or Manyik '099. We reverse.

Both Manyik '550 and Manyik '099 teach a process of polymerization of alpha-olefins with a chromium/aluminoxane catalyst. Both references teach that by "varying the ratios of the components used to produce the catalyst complex.... one can vary the properties of the polyolefin produced." (See Manyik '550 at column 4, lines 36-40 and Manyik '099 at column 4, lines 29-33). It is the examiner's position that this teaching alone is sufficient to establish a prima facie case that Manyik ('099 and '550) have taught that MWD can be controlled by changing the aluminoxane/ chromium ratio (Examiner's Answer, page 6, second paragraph).

We disagree with the examiner's position. Manyik ('099 and '550) set forth a minimum of five (5) process parameters that can be varied to vary the "properties of the polyolefin produced." As noted by appellants, there are a substantial number of important properties for polyolefins, (Reply brief, page 3). We agree with appellants that the Manyik ('099 and '550) statements would include a large number of process variables and properties. Properties of polymers are influenced by their structure and thus, there is some interrelationship between polymer structure and polymer properties. For example, it is known that melt index and solubility are inversely proportional to the molecular weight of the polymer. Manyik ('099 and '550) note that the melt index of the polymer product can be controlled by controlling the temperature of the process. However, contrary to the examiner's position, Manyik ('099 and '055) do not teach how MWD interrelates with any of the named process parameters. The examiner's position that it would have been obvious to optimize the process of Manyik ('990 and '550) by selecting a change in ratio of the catalysts employed is unsupported since the examiner has failed to adduce evidence of a relationship between the ratio of catalysts employed and MWD.

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The determination of a specific parameter can be an obvious expedient only when the art appreciates that said parameter is a result effective variable. See: In re Antonie, 559 F.2d 618, 620, 195 USPQ 6, 8-9 (CCPA 1977); cf. In re Yates, 663 F.2d 1054, 211 USPQ 1149, 1150 (CCPA 1981).

REVERSED

MARY F. DOWNEY	)	
Administrative Patent Judge	)	
	)	
	)	BOARD OF PATENT
EDWARD C. KIMLIN	)	
Administrative Patent Judge	)	APPEALS AND
	)	
	)	INTERFERENCES
	)	
THOMAS A. WALTZ	)	
Administrative Patent Judge	)	

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