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23575	7590	05/09/2022	EXAMINER	
CURATOLO SIDOTI & TRILLIS CO., LPA 24500 CENTER RIDGE ROAD, SUITE 280 CLEVELAND, OH 44145			USELDING, JOHN E	
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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* ALEXANDER KRAUS, ANNMARIE KUEHN, and  
STEFANIE KUENZNER

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Appeal 2021-002347  
Application 16/062,465  
Technology Center 1700

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Before KAREN M. HASTINGS, CHRISTOPHER C. KENNEDY, and  
MERRELL C. CASHION, JR., Administrative Patent Judges.

HASTINGS, *Administrative Patent Judge*.

DECISION ON APPEAL  
STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant<sup>1</sup> appeals from the Examiner's decision twice rejecting claims 1, 3–12, and 20. *See* Non-Final Act. 1. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

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<sup>1</sup> “Appellant” refers to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest of record in this application as Construction Research & Technology GmbH. Appeal Br. 3.

### CLAIMED SUBJECT MATTER

Claim 1 is reproduced here and is illustrative of the claimed subject matter (Appeal Br. 16, Claims Appendix; emphasis added to highlight a key disputed limitation):

1. A polycondensate containing

(I) at least a structural unit, which is an aromatic moiety bearing a polyether side chain comprising alkylene glycol units, with the proviso that the number of ethylene glycol units in the side chain is from 9 to 130 and that the content of ethylene glycol units is higher than 80 mol % with respect to all alkylene glycol units in the polyether side chain,

(IIa) at least a structural unit, which is an aromatic moiety bearing at least one phosphoric acid monoester group and/or its salt, with the proviso that the molar ratio of (IIa):(I) is from 0.25 to 8,

(IIb) at least a structural unit with a molar mass lower than 200 g/mol, which is an aromatic moiety with 6 carbon atoms bearing at least one hydroxy group attached to the aromatic moiety *with the proviso that the molar ratio of (IIa) : (IIb) is from 0.2 to 1.5,*

(III) at least a methylene unit (-CH<sub>2</sub>-), which is attached to two aromatic structural units Y, where aromatic structural units Y, independently of one another, are identical or different and are represented by structural unit (I), structural unit (IIa), structural unit (IIb) or optionally (IV) aromatic structural units of the polycondensate, which are different from structural unit (I), structural unit (IIa) and structural unit (IIb).

### REFERENCES

The prior art relied upon by the Examiner is:

Name	Reference	Date
Wieland	US 2008/0108732 A1	May 8, 2008
Kraus	WO 2015/091461 A1	June 25, 2015

### REJECTIONS

Claim(s) Rejected	35 U.S.C. §	Reference(s)/Basis
1, 3–5, 7–12, 20	103	Wieland
6	103	Wieland, Kraus
1, 3–12, 20	103	Kraus

### OPINION

The Examiner bears the initial burden of presenting a prima facie case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006), *quoted with approval in KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

Upon consideration of the evidence and each of Appellant’s contentions as set forth in the Appeal and Reply Briefs, we conclude that the preponderance of the evidence supports Appellant’s position that the Examiner has not met the burden in this case for substantially the same reasons as set forth by Appellant in the Briefs. Accordingly, we reverse the Examiner’s § 103 rejections of all the claims on appeal.

We add the following primarily for emphasis.

With respect to the rejections of claims 1, 3–12, and 20 under 35 U.S.C. § 103 based on Wieland, a preponderance of the evidence supports Appellant’s position that the Examiner has not adequately established that Wieland discloses or suggest a range of ratios for (IIa) to (IIb) that overlaps the claimed range of 0.2 to 1.5 so as to render obvious the subject matter of claim 1.

The Examiner relies on Wieland’s paragraph 19 and values derived from Examples B.5 and B.3 to conclude that Wieland discloses or suggests a ratio of (IIa) to (IIb) that overlaps the claimed range (Ans. 4). The Examiner acknowledges Wieland’s paragraph 19 does not explicitly address the ratio of (IIa) to (IIb) because the structural units of Wieland corresponding to claimed (IIa) and (IIb) are both encompassed by the denominator “B” of Wieland’s disclosed ratio (Ans. 4). Moreover, Example B.3 is directed to a method for making a polycondensate that is distinct from the polycondensate of Example B.5.

The Examiner has not explained sufficiently why one of ordinary skill in the art would mix and match molar concentration values from two different examples to determine a ratio of (IIa) to (IIb) as claimed, particularly given that Wieland’s ratio is different. As pointed out by the Appellant, the Examiner’s calculation (Ans. 4) involves picking and choosing convenient values from two unrelated examples to calculate a ratio not used by Wieland (Appeal Br. 10; Reply Br. 2–3). Consequently, the Examiner’s conclusion that Wieland discloses or suggests a range of ratios for (IIa) to (IIb) that overlaps the claimed range that renders claim 1 obvious is not supported by the facts, as discussed by Appellant in the Briefs (Appeal

Br. 9–10; Reply Br. 2–3). Moreover, the Examiner has not provided adequate evidence that one of ordinary skill in the art would have considered the claimed ratio to be suitable for Wieland’s purpose. *Cf. In re Sebek*, 465 F.2d 904, 907 (CCPA 1972) (where the prior art indicates that an optimum should be sought within a range, the determination of optimum values outside that range may not be obvious).

With respect to the rejection of claims 1, 3–12 and 20 under 35 U.S.C. § 103 based on Kraus, a preponderance of the evidence supports Appellant’s position that the Examiner has not adequately established that Kraus discloses or suggests a range of ratios for (IIa) to (IIb) that overlaps the claimed range of 0.2 to 1.5 that renders the subject matter of claim 1 obvious. According to the Examiner, Kraus teaches that the molar ratio of structural units corresponding to claimed (I) to (IIa)<sup>2</sup> ranges from 0.3 to 4, and Kraus also teaches that the molar ratio of the sum of the structural units corresponding to claimed (I) and (IIa) to the structural unit corresponding to claimed (IIb) ranges from 1/1 to 10/1 (Ans. 9). The Examiner finds this disclosure of Kraus supports a range of molar ratios of (IIa) to (IIb) that overlaps the claimed range of 0.2 to 1.5 (Ans. 9).

However, the Examiner does not explain how the molar ratio of the sum of structural units (I) and (II) to structural unit (IV) disclosed by Kraus conveys the relevant molar ratio of (II) to (IV) that corresponds to the

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<sup>2</sup> According to the Examiner (Ans. 9), structural units (I), (II) and (IV) taught by Kraus correspond to claimed structural units (I), (IIa) and (IIb), respectively.

claimed ratio.<sup>3</sup> Furthermore, the Examiner specifically relies upon phenol as the structural unit that corresponds to claimed (IIb) among at least 14 alternatives disclosed by Kraus (Ans. 9), many of which do not correspond to the claimed (IIb) (e.g., benzene-1,2-diol and benzene-1,2,3-triol) (Appeal Br. 13). Notably, as Appellant points out, Kraus discloses that “most preferably no structural unit (IV) [that the Examiner relied upon for IIb] is contained in the polycondensate” (Krause p. 16, ll. 34-35; Appeal Br. 13; Reply Br. 5).

In light of these circumstances, the Examiner has not met the burden to conclude that Kraus discloses or suggests a polycondensate comprising structural units (IIa) and (IIb), wherein the molar ratio of (IIa) to (IIb) [i.e., (IIa):phenol] spans a range that overlaps the claimed range of 0.2 to 1.5. Consequently, the Examiner’s conclusion that Kraus discloses or suggests a range of ratios for (IIa) to (IIb) that overlaps the claimed range so as to render claim 1 obvious is not based on adequate factual basis, as discussed by Appellant in the Briefs (Appeal Br. 13–14; Reply Br. 5–6).

Accordingly, we reverse the § 103 rejections of claims 1, 3–12 and 20 based on Krause.

## CONCLUSION

The Examiner’s rejections are reversed.

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<sup>3</sup> The calculation posited by the Examiner apparently requires substitution of a range within another range.

DECISION SUMMARY

In summary:

<b>Claim(s) Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1, 3-5, 7-12, 20	103	Wieland		1, 3-5, 7-12, 20
6	103	Wieland, Kraus		6
1, 3-12, 20	103	Kraus		1, 3-12, 20

REVERSED