

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 31

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ALBRECHT MARHOLD

Appeal No. 95-0966
Application 07/984,079¹

HEARD: MARCH 10, 1999

Before HANLON, PAK and LIEBERMAN, *Administrative Patent Judges*.

LIEBERMAN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the final rejection of claims 1 through 6.²

¹ Application for patent filed November 30, 1992.

² Preliminary amendment A, dated November 30, 1992 canceled claims 8 through 11. Claim 7 remains in the case. Although the examiner has stated that claim 7 had been canceled in the Office Action dated 07/13/ 93 and the Final Office Action dated 11/09/93, claim 7 has not been canceled. However, as the Notice of Appeal is directed exclusively to claims 1 through 6, claim 7 is not before us for decision.

THE INVENTION

Appellant's invention is directed to a process for the preparation of substituted anilines having side chains of fluorinated alkoxy or thioalkyl groups. The substituted anilines have the formula (I) as follows.



in which

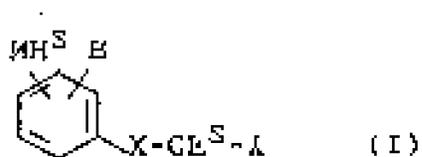
R represents hydrogen, chlorine, C₁-C₄- alkyl or C₁-C₄- alkoxy,

X represents oxygen or sulphur and

Y represents fluorine, CF₃ or CF₂Cl or, together with the CF₂-X radical, represents an -O-CF₂-CF₂-O-group whose two oxygen atoms are bonded in o-position to each other in the aromatic ring,

The substituted aniline, as defined by formula (I), is prepared by the reaction of chlorinated aromatic compounds with ammonia in the presence of a catalyst at a temperature of 200 to 280°C. Claim 1 is illustrative of the invention and is reproduced below.

1. A process for the preparation of anilines of the formula (I) which contain fluorine in a side chain,



in which

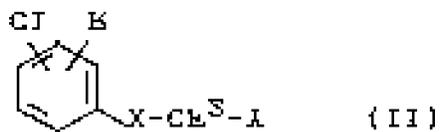
R represents hydrogen, chlorine, C₁-C₄- alkyl or C₁-C₄- alkoxy,

X represents oxygen or sulphur and

Y represents fluorine, CF₃ or CF₂Cl or, together with the CF₂-X radical, represents an -O-CF₂- CF₂-O-group whose two oxygen atoms are bonded in o-position to each other in the aromatic ring,

in which a chlorinated aromatic compound of the formula

(II)



in which

R, X and Y have the meaning given for the formula (I),

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is reacted with ammonia in the presence of a catalyst at 200 to 280°C.

THE REFERENCES OF RECORD

As evidence of obviousness the examiner relies upon the following reference:

Andoh et al. (Andoh) 4,521,622 June 4, 1995

As evidence of non-obviousness, appellant relies upon the following reference:

Kobayashi Chem. Pharm Bull. Volume 23(3) 1975, pages 636- 639.

THE REJECTIONS

Claims 1 through 6 stand rejected under 35 U.S.C. § 103 as being unpatentable over Andoh.

OPINION

Having carefully considered the evidence of record before us, we conclude that the examiner has not established a *prima facie* case of obviousness within the meaning of 35 U.S.C. § 103.

Accordingly, we reverse the examiner's decision rejecting claims 1 through 6 under 35 U.S.C. § 103.

Andoh teaches a process for producing an aromatic amine from an aromatic halide, by reacting the aromatic halide with ammonia in the presence of a copper catalyst. See the Abstract. In the disclosed process, some or all of the chloro groups are replaced by NH₂ groups. See the examples in Andoh.

The examiner finds the temperature range for Andoh's process to be 170 - 250°C. See column 2, line

50 of Andoh and examiner's answer, page 2. Although the examiner recognizes that the specific claimed reactants and products are not described in Andoh, it is the examiners position that the invention, " would have been *prima facie* obvious to one of ordinary skill in the art at the time it was made, because the prior art of record fairly discloses the process of the instant claims."³ See the examiner's answer, page 3.

We disagree. A proper analysis of the claimed invention under § 103 requires consideration of two factors: (1) whether the prior art would have suggested to those of ordinary skill in the art that they should make the claimed invention; and (2) whether the prior art would have revealed that in so doing or carrying out, those of ordinary skill would have had a reasonable expectation of success. *In re Vaeck*, 947 F.2d 488, 493, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991). Our findings indicate with respect to the first factor, no suggestion or teaching in the prior art of Andoh for the presence of an X-CF₂-Y group on the starting material and product. The absence of that suggestion in and of itself is sufficient to conclude that no *prima facie* case of obviousness had been established. See *In re Ochai* 71 F.3d 1565, 1570, 37 USPQ2d 1127, 1132 (Fed. Cir. 1995).

As to the second factor, the issue is , whether the prior art would have revealed that in carrying out the reaction with the aforesaid side chain X-CF₂-Y group, those of ordinary skill in the art would have had a reasonable expectation of success. In that respect, the examiner has inappropriately interpreted

³ Italics ours.

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the Kobayashi reference relied upon by appellant. The examiner's position in the Answer, Page 8, that, "(T)hese are reactants with nitro moieties , which are not present in the Andoh reference," conflicts with the express teachings of Andoh, column 2, lines 22 and 23 of chloronitrobenzenes.

In contrast, appellant relies on the chart in Kobayashi, page 637 which discloses that CF_3 side chains gave the corresponding benzonitriles, i.e. CN side chains, when reacted in the presence of $NaNH_2$ and ammonia. See Chart 1, and the reactions exemplified by the transformations of formula I to II and formula XI to XII respectively. The evidence submitted by appellant supports an expectation that fluorinated side chains may not remain unreacted in the claimed process. Stated otherwise, we find the evidence of record reveals that in carrying out an analogous prior art process, those of ordinary skill would not have had a reasonable expectation of success as the fluorine present on the side chains would have been expected to react. Accordingly, our evaluation of the record indicates that the examiner has failed to establish a *prima facie* case of obviousness .

DECISION

The rejection of claims 1-6 as unpatentable over Andoh under 35 U.S.C. § 103 is reversed.

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REVERSED

ADRIENE LEPIANE HANLON)
Administrative Patent Judge)
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) BOARD OF PATENT
CHUNG K. PAK)
Administrative Patent Judge) APPEALS AND
)
) INTERFERENCES
)
PAUL LIEBERMAN)
Administrative Patent Judge)

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