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(12) **United States Patent**
Itou(10) **Patent No.: US 8,791,122 B2**
(45) **Date of Patent: Jul. 29, 2014**(54) **FORM-I CRYSTAL OF**
2-{4-[N-(5,6-DIPHENYLPYRAZIN-2-YL)-N-
ISOPROPYLAMINO]BUTYLOXY}-N-
(METHYLSULFONYL)ACETAMIDE AND
METHOD FOR PRODUCING THE SAME(75) Inventor: **Hideyuki Itou**, Kyoto (JP)(73) Assignee: **Nippon Shinyaku Co., Ltd.**, Kyoto (JP)

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See application file for complete search history.

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(57) **ABSTRACT**

A main object of the present invention is to provide a novel crystal of 2-{4-[N-(5,6-diphenylpyrazin-2-yl)-N-isopropylamino]butyloxy}-N-(methylsulfonyl)acetamide (hereinafter referred to as "compound A"). A Form-I crystal of compound A shows diffraction peaks at 9.4 degrees, 9.8 degrees, 17.2 degrees and 19.4 degrees in the powder X-ray diffraction spectrum thereof. A Form-II crystal of compound A shows diffraction peaks at 9.0 degrees, 12.9 degrees, 20.7 degrees and 22.6 degrees in the powder X-ray diffraction spectrum thereof. A Form-III crystal of compound A shows diffraction peaks at 9.3 degrees, 9.7 degrees, 16.8 degrees, 20.6 degrees and 23.5 degrees in the powder X-ray diffraction spectrum thereof.

3 Claims, 6 Drawing Sheets