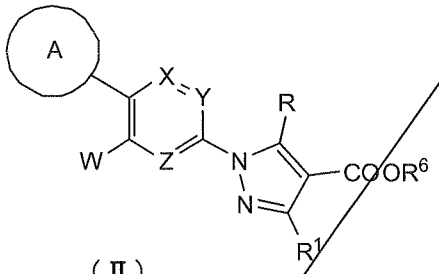
thereof, and a pharmaceutically acceptable carrier.

The present invention is also a xanthine oxidase inhibitor comprising a compound represented by the above formula (I), or a pharmaceutically acceptable salt thereof, as an active ingredient.

The present invention is also a therapeutic or prophylactic agent for diseases associated with xanthine oxidase, such as gout, hyperuricemia, tumor lysis syndrome, urinary calculus, hypertension, dyslipidemia, diabetes, cardiovascular diseases such as arteriosclerosis or heart failure, renal diseases such as diabetic nephropathy, respiratory diseases such as chronic obstructive pulmonary disease, inflammatory bowel diseases, or autoimmune diseases, comprising a compound represented by the above formula (I), or a pharmaceutically acceptable salt thereof, as an active ingredient.

In another aspect, there is provided a compound represented by formula (II):



（Ⅱ）

wherein:

A represents a phenyl group which, wherein the aryl group or heteroaryl group may be unsubstituted or substituted with 1 to 3 groups Q which are the same or different from one another and selected from the group consisting of a halogen atom, a $C_{1\text{-}16}$ atom, a $C_{1\text{-}6}$ alkyl group, a $C_{3\text{-}7}$ cycloalkyl group, a $C_{1\text{-}6}$ halogenalkyl group, a phenyl group, -O-R^2, and –O- $C_{1\text{-}6}$ halogenalkyl;

X, and Z represent C H and Y represents a nitrogen atom;

R represents a hydrogen atom;

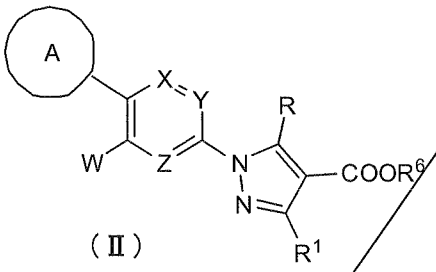
R^1 represents a hydrogen atom;

R^2 represents a hydrogen atom or a C_{1-6} alkyl group;

R^6 represents a protective group of a carboxyl group; and

W represents a halogen atom, a methanesulfonyloxy group, a p-toluenesulfonyloxy group, a trifluoromethanesulfonyloxy group, or a cyano group.

In another embodiment, there is provided a compound represented by the following formula (II) which can be used as an intermediate in the manufacture of the compound represented by the above formula (I):



(Ⅱ)

wherein:

A represents a C_{6-10} aryl group or a heteroaryl group, wherein the aryl group or heteroaryl group may be unsubstituted or substituted with 1 to 3 groups Q which are the same or different from one another and selected from the group consisting of a halogen atom, -CN, $-NO_2$, a C_{1-6} alkyl group, a C_{3-7} cycloalkyl group, a C_{1-6} halogenoalkyl group, a phenyl group, $-CH_2-O-R^2$, $-O-R^2$, $-O-C_{1-6}$ halogenoalkyl, -O-benzyl, -O-

thereof, and a pharmaceutically acceptable carrier.

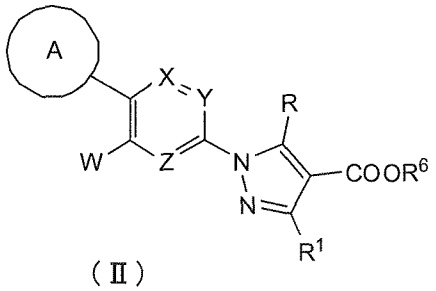
The present invention is also a xanthine oxidase inhibitor comprising a compound represented by the above formula (I), or a pharmaceutically acceptable salt thereof, as an active ingredient.

The present invention is also a therapeutic or prophylactic agent for diseases associated with xanthine oxidase, such as gout, hyperuricemia, tumor lysis syndrome, urinary calculus, hypertension, dyslipidemia, diabetes, cardiovascular diseases such as arteriosclerosis or heart failure, renal diseases such as diabetic nephropathy, respiratory diseases such as chronic obstructive pulmonary disease, inflammatory bowel diseases, or autoimmune diseases, comprising a compound represented by the above formula (I), or a pharmaceutically acceptable salt thereof, as an active ingredient.

In another aspect, there is also provided the use of a compound as described herein, or a pharmaceutically acceptable salt thereof, as an active ingredient, in the manufacture of a medicament for treating gout, hyperuricemia, tumor lysis syndrome, urinary calculus, hypertension, dyslipidemia, diabetes, cardiovascular diseases such as arteriosclerosis or heart failure, renal diseases such as diabetic nephropathy, respiratory diseases such as chronic obstructive pulmonary disease, inflammatory bowel diseases, or autoimmune diseases.

In another aspect, there is also provided the use of a compound as described herein, or a pharmaceutically acceptable salt thereof, as an active ingredient, in the manufacture of a medicament for treating gout or hyperuricemia.

In another aspect, there is provided a compound represented by formula (II):



(Ⅱ)

wherein:

A represents a phenyl group which, wherein the aryl group or heteroaryl group may be unsubstituted or substituted with 1 to 3 groups Q which are the same or different from one another and selected from the group consisting of a halogen atom, a C_{1-16} atom, a C_{1-6} alkyl group, a C_{3-7} cycloalkyl group, a C_{1-6} halogenalkyl group, a phenyl group, -O-R^2, and –O- C_{1-6} halogenalkyl;

X, and Z represent C H and Y represents a nitrogen atom;

R represents a hydrogen atom;

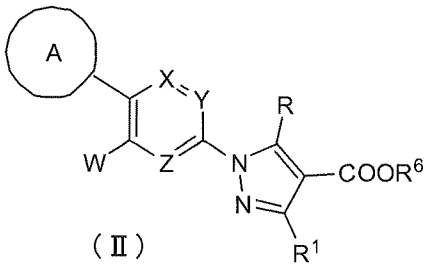
R^1 represents a hydrogen atom;

R^2 represents a hydrogen atom or a C_{1-6} alkyl group;

R^6 represents a protective group of a carboxyl group; and

W represents a halogen atom, a methanesulfonyloxy group, a p-toluenesulfonyloxy group, a trifluoromethanesulfonyloxy group, or a cyano group.

In another embodiment, there is provided a compound represented by the following formula (II) which can be used as an intermediate in the manufacture of the compound represented by the above formula (I):



(Ⅱ)

wherein:

A represents a C_{6-10} aryl group or a heteroaryl group, wherein the aryl group or heteroaryl group may be unsubstituted or substituted with 1 to 3 groups Q which are the same or different from one another and selected from the group consisting of a halogen atom, -CN, $-NO_2$, a C_{1-6} alkyl group, a C_{3-7} cycloalkyl group, a C_{1-6} halogenoalkyl group, a phenyl group, $-CH_2-O-R^2$, $-O-R^2$, $-O-C_{1-6}$ halogenoalkyl, -O-benzyl, -O-

or a pharmaceutically acceptable salt thereof.

5. A pharmaceutical composition comprising the compound according to any of claims 1 to 4, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

6. A xanthine oxidase inhibitor comprising the compound according to any of claims 1 to 4, or a pharmaceutically acceptable salt thereof, as an active ingredient.

7. ~~A therapeutic or prophylactic agent for gout, hyperuricemia, tumor lysis syndrome, urinary calculus, hypertension, dyslipidemia, diabetes, cardiovascular diseases such as arteriosclerosis or heart failure, renal diseases such as diabetic nephropathy, respiratory diseases such as chronic obstructive pulmonary disease, inflammatory bowel diseases, or autoimmune diseases, comprising the~~ Use of a compound according to any of claims 1 to 14, or a pharmaceutically acceptable salt thereof, as an active ingredient, in the manufacture of a medicament for treating gout, hyperuricemia, tumor lysis syndrome, urinary calculus, hypertension, dyslipidemia, diabetes, cardiovascular diseases such as arteriosclerosis or heart failure, renal diseases such as diabetic nephropathy, respiratory diseases such as chronic obstructive pulmonary disease, inflammatory bowel diseases, or autoimmune diseases.

8. ~~A therapeutic or prophylactic agent for gout or hyperuricemia, comprising the~~Use of a compound according to any of claims 1 to 14, or a pharmaceutically acceptable salt thereof, as an active ingredient, in the manufacture of a medicament for treating gout or hyperuricemia.