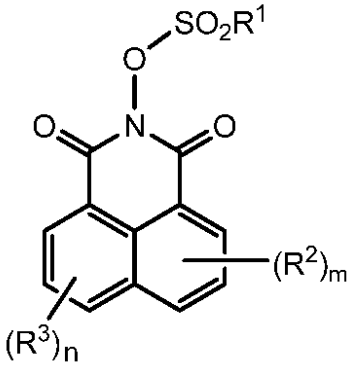
CLAIMS

1. An aromatic imide compound represented by the formula (1):

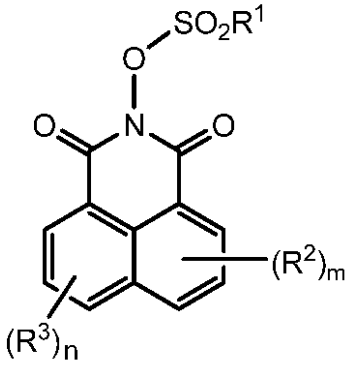


(1)

wherein R^1 represents a haloalkyl group having 1 to 7 carbon atoms or a haloaryl group, R^2 represents as a group R^4-R^5-, R^4 represents ~~containing~~ a substituted or unsubstituted~~, aliphatic or~~ aromatic group, ~~which may have a heteroatom, adjacent R^2s may form an imido group by connecting each other,~~ R^5 represents a direct bond or an alkylene group, an alkenylene group, an alkynylene group, a thioester group, a sulfonic ester group, a boronic ester group, a disulfide group, an amino group, an amido group, a thioamido group, an azo group, and a triazole group, which may be substituted or unsubstituted, R^3 represents a halogen atom or a hydrocarbon group, m is ~~zero or~~ an integer of 1 or more, n is zero or an integer of 1 or more, and a sum of n and m is 1 to 6.

2. The aromatic imide compound according to claim 1, which can absorb light of g-line (436 nm) and/or h-line (405 nm).

3. A method for preparing an aromatic imide compound represented by the formula (1):

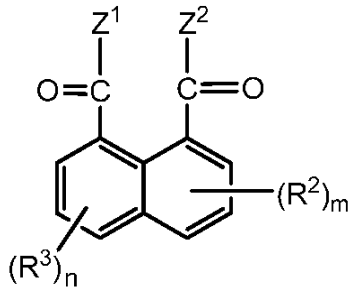


(1)

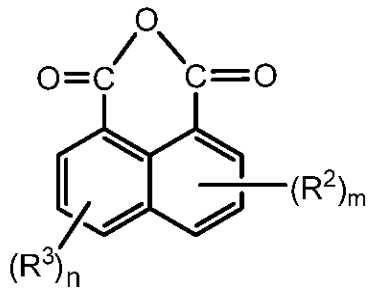
in which R^1 represents a haloalkyl group having 1 to 7 carbon atoms or a haloaryl group, R^2 represents as a group R^4-R^5-, R^4 represents ~~containing~~ a substituted or unsubstituted~~, aliphatic or~~ aromatic group, ~~which may have a heteroatom, adjacent R^2s may form an imido group by connecting each other,~~ R^5 represents a direct bond or an alkylene group, an alkenylene group, an alkynylene group, a thioester group, a sulfonic ester group, a boronic ester group, a disulfide group, an amino group, an amido group, a thioamido group, an azo group, and a triazole group, which may be substituted or unsubstituted, R^3 represents a halogen atom or a hydrocarbon group, m is ~~zero or~~ an integer of 1 or more, n is zero or an integer of 1 or more, and a sum of n and m is 1 to 6,

wherein the method for preparing an aromatic imide compound comprises,

(A) a first step preparing compounds represented by the formula (4-1) and/or the formula (4-2):



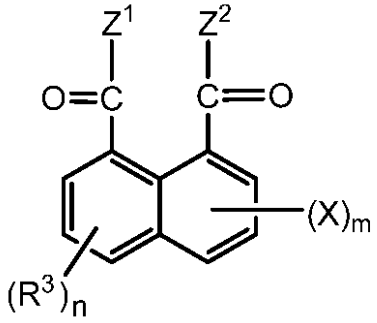
(4-1)



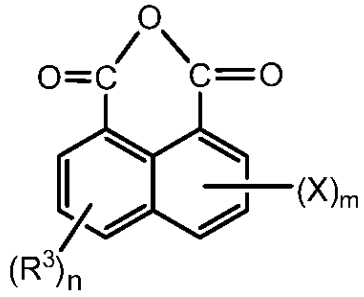
(4 - 2)

in which Z^1 and Z^2 each independently represent a hydroxyl group or an alkoxy group and R^2, R^3, m, and n each represent the same meanings as those identified above,

by reacting compounds represented by the formula (3-1) and/or the formula (3-2):



(3 - 1)

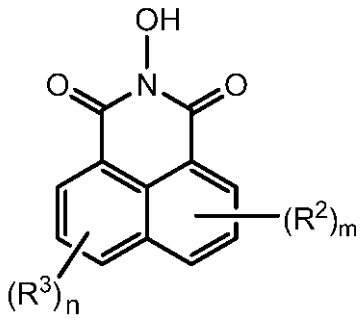


(3 - 2)

in which X represents a halogen atom and R^3, Z^1, Z^2, m, and n each represent the same meanings as those identified above,

with ~~a hydrocarbon compound containing~~ a substituted or unsubstituted~~, aliphatic or~~ aromatic group which may form a group R^4-R^5-, in which R^4 and R^5 represent the same meanings as those identified above ~~have a heteroatom~~,

(B) a second step preparing a compound represented by the formula (5):



(5)

in which R^2, R^3, m, and n each represent the same meanings as those identified above,

by reacting the compounds represented by the formula (4-1) and/or the formula (4-2) with a hydroxylammonium compound, and

(C) a third step preparing the aromatic imide compounds represented by the formula (1) by reacting the compound represented by the formula (5) with a compound represented by the formula (6):

$$R^1SO_2Y \qquad (6)$$

in which Y represents a halogen atom or a tosyl group and R^1 represent the same meanings as those identified above.

4. The method for preparing aromatic imide compounds according to claim 3, wherein the aromatic imide compounds represented by

the formula (1) are compounds which can absorb light of g-line (436 nm) and/or h-line (405 nm).