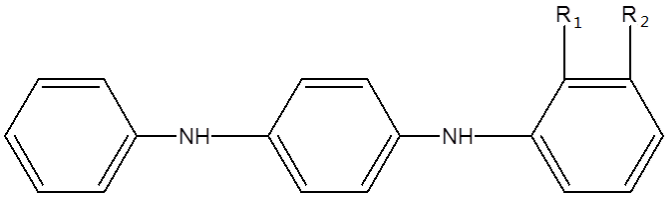
CLAIMS

1. A compound of Formula I:



I,

wherein R_1 and R_2 are identical or different, each being independently selected from C1-C12 alkyl and C3-C8 cycloalkyl; and R_1 and R_2 are not methyl at same time.

2. The compound of claim 1, wherein R_1 is C1-C6 alkyl or C3-C6 cycloalkyl.

3. The compound of claim 1, wherein R_1 is methyl, ethyl, isobutyl, or cyclohexyl.

4. The compound of claim 1, wherein R_2 is C1-C12 alkyl or C3-C6 cycloalkyl.

5. The compound of claim 1, wherein R_2 is methyl, ethyl, 1,3-dimethylbutyl, 1,4-dimethylamyl, octyl, 1-methyl-6-ethyloctyl, or cyclohexyl.

6. The compound of claim 1, wherein

R_1 is methyl, R_2 is ethyl;

R_1 is methyl, R_2 is 1,3-dimethylbutyl;

R_1 is methyl, R_2 is 1-methyl-6-ethyloctyl;

R_1 is ethyl, R_2 is 1,4-dimethylamyl;

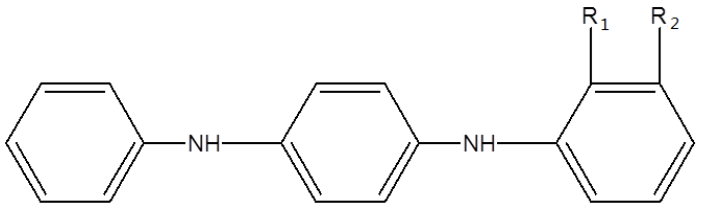
R_1 is ethyl, R_2 is cyclohexyl;

R_1 is isobutyl, R_2 is cyclohexyl; or

R_1 is cyclohexyl, R_2 is octyl.

7. An antidegradant composition comprising

a first compound of Formula I:



I,

wherein R_1 and R_2 are identical or different, each being independently selected from C1-C12 alkyl and C3-C8 cycloalkyl, and

a second antidegradant that is not the first compound of Formula I.

8. The antidegradant composition of claim 7, wherein the second antidegradant is a pollution-type antidegradant.

9. The antidegradant composition of claim 7, wherein the second antidegradant is 6PPD, IPPD, or both.

10. The antidegradant composition of claim 7, wherein mass ratio of the first compound to the second antidegradant is in a range of 1:6 to 6:1.

11. The antidegradant composition of claim 7, wherein R_1 is C1-C6 alkyl or C3-C6 cycloalkyl.

12. The antidegradant composition of claim 7, wherein R_2 is C1-C12 alkyl or C3-C6 cycloalkyl.

13. The antidegradant composition of claim 7, wherein R_1 is methyl, ethyl, isobutyl, or cyclohexyl.

14. The antidegradant composition of claim 7, wherein R_2 is methyl, ethyl, 1,3-dimethylbutyl, 1,4-dimethylamyl, octyl, 1-methyl-6-ethyloctyl, or cyclohexyl.

15. The antidegradant composition of claim 7, wherein

R_1 is methyl, R_2 is methyl;

R_1 is methyl, R_2 is ethyl;

R_1 is methyl, R_2 is 1,3-dimethylbutyl;

R_1 is methyl, R_2 is 1-methyl-6-ethyloctyl;

R_1 is ethyl, R_2 is 1,4-dimethylamyl;

R_1 is ethyl, R_2 is cyclohexyl;

R_1 is isobutyl, R_2 is cyclohexyl; or

R_1 is cyclohexyl, R_2 is octyl.

16. A rubber composition comprising the compound of claim 1.

17. The rubber composition of claim 16, wherein the compound is present in an amount of 0.5-5.0 parts by mass based on 100 parts by mass as a content of the diene elastomer comprised in the rubber composition.

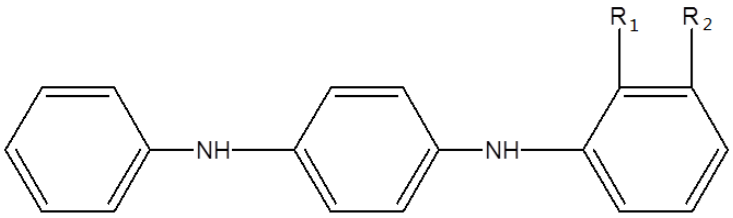
18. A rubber composition comprising the antidegradant composition of claim 7.

19. A rubber article prepared using the rubber composition of claim 16 as rubber ingredient.

20. The rubber article of claim 19, wherein the rubber article is a tire, a rubber overshoe, a sealing strip, an acoustic panel, or a crash pad.

21. A method for using the rubber composition of claim 16, comprising preparing a rubber article or retreading tires by using the rubber composition of claim 16.

22. A method for promoting resistance of a rubber or a rubber article to appearance discoloration, comprising using a compound of Formula I in a rubber or rubber article:



I,

wherein R_1 and R_2 are identical or different, each being independently selected from C1-C12 alkyl and C3-C8 cycloalkyl.