CLAIMS

1. A light-emitting element comprising:

n EL layers (*n* is a natural number of two or more) between an anode and a cathode, each of the *n* EL layers comprising at least a light-emitting layer;

a first layer between an *m*-th EL layer (*m* is a natural number, $1 \leq m \leq n-1$) and an (*m*+1)-th EL layer, the first layer comprising at least one of an alkali metal, an alkaline earth metal, and a rare earth metal;

a second layer between the first layer and the (*m*+1)-th EL layer, the second layer comprising an electron-transporting material; and

a charge-generation layer between the second layer and the (*m*+1)-th EL layer, the charge-generation layer comprising a hole-transporting material and an acceptor substance,

wherein each of the *n* EL layers further comprises a hole-transporting layer and an electron-transporting layer with the light-emitting layer interposed therebetween, and

wherein the charge-generation layer does not have a peak of an absorption spectrum in a visible light region.

2. The light-emitting element according to claim 1, wherein the electron-transporting material has a LUMO level of greater than or equal to −5.0 eV.

3. The light-emitting element according to claim 1, wherein the electron-transporting material is a perylene derivative or a nitrogen-containing condensed aromatic compound.

4. The light-emitting element according to claim 1, wherein the acceptor substance is a transition metal oxide or an oxide of a metal belonging to any of Groups 4 to 8 of the periodic table.

5. The light-emitting element according to claim 1, wherein the hole-transporting material is a carbazole derivative or aromatic hydrocarbon.

6. The light-emitting element according to claim 1, wherein the acceptor substance is molybdenum oxide.

7. A light-emitting device comprising the light-emitting element according to claim 1.

8. A light-emitting element comprising:

n EL layers (*n* is a natural number of two or more) between an anode and a cathode, each of the *n* EL layers comprising at least a light-emitting layer;

a first layer between an *m*-th EL layer (*m* is a natural number, $1 \leq m \leq n-1$) and an (*m*+1)-th EL layer, the first layer comprising a first electron-transporting material and a donor substance;

a second layer between the first layer and the (*m*+1)-th EL layer, the second layer comprising a second electron-transporting material; and

a charge-generation layer between the second layer and the (*m*+1)-th EL layer, the charge-generation layer comprising a hole-transporting material and an acceptor substance,

wherein each of the *n* EL layers further comprises a hole-transporting layer and an electron-transporting layer with the light-emitting layer interposed therebetween, and

wherein the charge-generation layer does not have a peak of an absorption spectrum in a visible light region.

9. The light-emitting element according to claim 8, wherein the donor substance comprises at least one of an alkali metal, an alkaline earth metal, and a rare earth metal.

10. The light-emitting element according to claim 8, wherein each of the first electron-transporting material and the second electron-transporting material has a LUMO level of greater than or equal to −5.0 eV.

11. The light-emitting element according to claim 8, wherein each of the first electron-transporting material and the second electron-transporting material is a perylene derivative or a nitrogen-containing condensed aromatic compound.

12. The light-emitting element according to claim 8, wherein the acceptor substance is a transition metal oxide or an oxide of a metal belonging to any of Groups 4 to 8 of the periodic table.

13. The light-emitting element according to claim 8, wherein the hole-transporting material is a carbazole derivative or aromatic hydrocarbon.

14. The light-emitting element according to claim 8, wherein the acceptor substance is molybdenum oxide.

15. A light-emitting device comprising the light-emitting element according to claim 8.