

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2024/0251670 A1 KAKIZOE

Jul. 25, 2024 (43) **Pub. Date:**

(54) ORGANIC LIGHT-EMITTING DEVICE AND METHOD FOR MAKING SAME

(71) Applicant: KYULUX, INC., Fukuoka-shi, Fukuoka

(72) Inventor: Hayato KAKIZOE, Fukuoka-shi, Fukuoka (JP)

Appl. No.: 18/557,103

(22) PCT Filed: Mar. 30, 2022

(86) PCT No.: PCT/JP2022/015884

§ 371 (c)(1),

(2) Date: Oct. 25, 2023

(30)Foreign Application Priority Data

Apr. 26, 2021 (JP) 2021-073740

Publication Classification

(51) Int. Cl. H10K 85/60 (2006.01)H10K 50/12 (2006.01)

H10K 101/20 (2006.01)

(52)U.S. Cl.

CPC H10K 85/654 (2023.02); H10K 85/626 (2023.02); H10K 85/6572 (2023.02); H10K 85/658 (2023.02); H10K 50/12 (2023.02); H10K 2101/20 (2023.02)

(57)**ABSTRACT**

An organic light emitting device having a light emitting layer that contains a first organic compound (1) and a second organic compound (2) of a delayed fluorescent material, and a barrier layer containing a triplet-regulating compound (Q) in contact with the light emitting layer, and satisfying the following formulae has a long emission lifetime and is stable. E_{S1} represents a lowest excited singlet energy, and E_{T_1} represents a lowest excited triplet energy. $E_{S_1}(1) > E_{S_1}$ $(Q) > E_{S1}(2) E_{T1}(1) > E_{T1}(2) > E_{T1}(Q)$

