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[54] **PREPARATION OF N,N'-DIALKYLPERYLENE-3,4,9,10-TETRACARBOXYLIC ACID DIIMIDES**

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[52] **U.S. Cl.** **546/37**; 546/36

[58] **Field of Search** 546/36, 37

[56] **References Cited**

U.S. PATENT DOCUMENTS

4,585,878	4/1986	Jost et al.	548/453
5,017,713	5/1991	Kondo et al.	552/237

FOREIGN PATENT DOCUMENTS

1 433 688	2/1966	France .
2.027.743	1/1970	France .
2 394 581	6/1978	France .
276 357	6/1913	Germany .
276 956	6/1928	Germany .
1 272 270	2/1961	Germany .
21 53 087	10/1971	Germany .
27 27 484	1/1979	Germany .
48-001409	1/1973	Japan .
WO 96/08537	3/1996	WIPO .

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[57] **ABSTRACT**

Preparation of N,N'-di(C_1–C_4 alkyl)perylene-3,4,9,10-tetracarboxylic acid diimides (I) by the reaction of perylene-3,4,9,10-tetracarboxylic acid diimide (II) with a C_1–C_4 alkyl halide, in which the reaction is carried out in a dipolar-aprotic organic solvent in the presence of an inorganic base.

8 Claims, No Drawings