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Highly soluble perylene dye: tetrabenzyl 3,4,9,10-perylenetetracarboxylate

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3,4,9,10-Perylenetetracarboxylic dianhydride and the solvents were obtained from Aldrich and Acros Organics and used without further purification. Benzylbromide was synthesized by bromination of the toluene as described in [1]. The potassium salt of 3,4,9,10-perylenetetracarboxylic acid was prepared by addition of 20% aqueous solution of potassium hydroxide to dianhydride **2** and following precipitation by *i*-propanol/acetone 1:1 mixture. The NMR spectra were recorded on AMX 400, Bruker (400 MHz-^{1}H) spectrometer.

Synthesis of **4** *in chlorobenzene*

A mixture containing 0.5 g (0.86 mmol) of the potassium salt of 3,4,9,10-perylenetetracarboxylic acid, 1g of potassium carbonate, 8 ml (67.26 mmol) of benzylbromide and 100 ml of chlorobenzene was heated at reflux for 3 days in argon atmosphere. A progress of the reaction was controlled by TLC. At the end of the synthesis, the reaction mixture was cooled down and filtered. The filtrate was concentrated in vacuum and the residue formed was re-dissolved in toluene. The toluene solution was poured on the top of the silica gel column (40-60 μ, 60 Å, Acros Organics) and the title compound was eluted with toluene. The concentration of the bright orange solution yielded **4** as orange solid (0.390 g, 57%).

Synthesis of **4** *in the mixture of DMF with chlorobenzene*

A mixture containing 0,5 g (0.86 mmol) of the potassium salt of 3,4,9,10-perylenetetracarboxylic acid, 1g of potassium carbonate, 8 ml (67.26 mmol) of benzylbromide and 25 ml of DMF was stirred for 5 h at room temperature in argon atmosphere. Then 100 ml chlorobenzene were added and the mixture was heated at reflux for 3 h. Separation and purification were performed as described above. The yield of **4** was 0.280 g (42%).

1. *Organic Syntheses. An Annual Publication of Satisfactory Methods for the Preparation of Organic Chemicals*, 1954, vol. 34, p. 100.
