

Synthesis of the Zn, Mg, and LuOAc phthalocyanines (Pcs) containing sterically hindered 2,6-di-(tert-butyl)-4-methylphenol group were successfully achieved by the cyclotetramerization of the 4-[2,6-di-(tert-butyl)-4-methylphenoxy]phthalonitrile. All compounds were fully characterized by  $^1\text{H}$  and  $^{13}\text{C}$  NMR, infrared, elemental analysis, UV-Vis, and ...

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Advancement of modern society requires upgrading a new class of energy storage systems. Nowadays, supercapacitors have become more reliable energy storage systems. ... (1 g, 0.073 mmol), tetracarboxylic acid-cobalt (II)-phthalocyanine (1.1 g, ... The observed blue shift of the Raman peaks were attributed to the increase in the number of ...

Energy consumption, energy production and energy storage are three important factors that rely on the combustion of fossil fuels [1]. They have a drastic impact on world economics, ecology and its respective human life. ... The copper phthalocyanine (Blue 15,  $M_w = 576.07 \text{ g mol}^{-1}$ ) were supplied from Sigma-Aldrich. Synthesis of  $\text{BaAl}_2\text{O}_4$  ...

Copper phthalocyanine (CuPc), also called phthalocyanine blue, phthalo blue and many other names, is a bright, crystalline, synthetic blue pigment from the group of dyes based on phthalocyanines s brilliant blue is frequently used in paints and dyes is highly valued for its superior properties such as light fastness, tinting strength, covering power and resistance to ...

Request PDF | A bipolar and self-polymerized phthalocyanine complex for fast and tunable energy storage | Bipolar redox organics have attracted immense scientific interest as electrode materials ...

1 Introduction Energy, in all of its appearances, is the driving force behind all life on earth and the many activities that keep it functioning. 1 For decades, the search for efficient, sustainable, and reliable energy storage devices has been a key focus in the scientific community. 2 The field of energy storage has been a focal point of research in recent years due to the increasing ...

Rechargeable sodium-iodine (Na-I 2) batteries are attracting growing attention for grid-scale energy storage due to their abundant resources, low cost, environmental friendliness, high theoretical capacity ( $211 \text{ mAh g}^{-1}$ ), ...

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Pcs have been reported to show crystallographic polymorphism under ball-milling processing, 41 and have been employed in solid-state preparation of composite materials for traditional applications such as catalysis, 42-44 energy conversion 45 and storage, 46, 47 and others. 48-51 However, to the extent of our knowledge, the solid-state ...

Description. A synthetic organic colorant composed of copper phthalocyanine that was first synthesized in 1933 by R.P.Linstead. In 1935, copper phthalocyanine was marketed as a paint pigment called Monastral blue [ICI]. The organic colorant is usually adsorbed on an aluminum hydrate base to form a deep blue color.

The energy storage mechanism of ZIF-67/Ni<sub>3</sub>S<sub>2</sub> has also been analyzed, as shown in Fig. S2, the logarithmic relationship between peak current and scan rate is derived from the CV curve of the material in Fig. S2(a), where the b-values for the cathode and anode peaks are 0.58754 and 0.571291, respectively, which indicates that the kinetic ...

Energy storage devices are crucial to refrain from interrupted power supply due to the intermittent nature of renewable sources such as solar and wind energy. ... ball milling was used to cause mechanical exfoliation to synthesize phthalocyanine-based 2D conducting MOF (Ni<sub>2</sub> ... this work provides a blue-print for the future 2D MOF designs for ...

Metal-free phthalocyanine: Blue-green color; [Hawley] Black, dark blue, or purple odorless crystalline solid; [MSDSonline] ... storage in a retrieval system or retransmission, in any form or by any means, electronic, mechanical or otherwise, for reasons other than personal use, is strictly prohibited without prior written permission. <https://www.fishbase.org/species/1364> ...

Phthalocyanine (Pc, Fig. 16.1) is a classical dye and pigment exhibiting blue or green color, which has been utilized in various fields of industrial and medical applications, such as catalysts, deodorants, optical discs, photodynamic therapy, semiconductors, solar cells, nonlinear optics, and so forth [].The history of Pc chemistry can arguably be traced back to 1907 when Braun ...

This study indicates facile, low-cost, and green MW method can be used for the preparation of the needle-like form of ZnPc as a promising multifunctional material for the potential applications: in thermal energy storage in future solar power technologies, as electrode material exhibiting superior voltammetric response, with cathodic and anodic ...

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