

This article was downloaded by:

On: 30 January 2011

Access details: Access Details: Free Access

Publisher Taylor & Francis

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Phosphorus, Sulfur, and Silicon and the Related Elements

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t713618290>

THE SYNTHESIS AND PROPERTIES OF DI/1,4 - PHENOTHIAZINE/

JÓZef Garbarczyk^a; Aleksander uk^a

^a Institute of Chemical Technology, Poland

To cite this Article Garbarczyk, JÓZef and uk, Aleksander(1979) 'THE SYNTHESIS AND PROPERTIES OF DI/1,4 - PHENOTHIAZINE/', Phosphorus, Sulfur, and Silicon and the Related Elements, 6: 1, 351

To link to this Article: DOI: 10.1080/03086647908080449

URL: <http://dx.doi.org/10.1080/03086647908080449>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.informaworld.com/terms-and-conditions-of-access.pdf>

This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

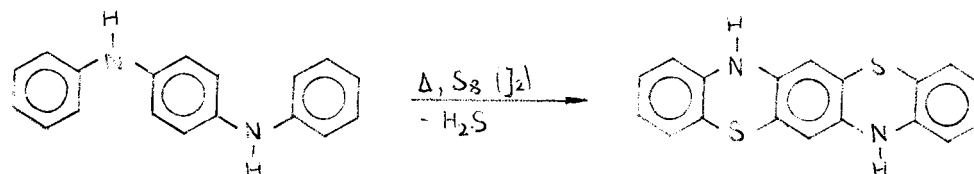
THE SYNTHESIS AND PROPERTIES OF DI/1,4 - PHENOTHIAZINE/

Józef Garbarczyk and Aleksander Żuk

Institute of Chemical Technology, Politechnika Poznańska,
Poznań, Poland

The structure determination of the poly/1,4-phenothiazine/ is still difficult because of their very slight solubility in the organic solvents and low degree of crystallinity.

As the model in our investigation we chose the oligomer - di/1,4-phenothiazine/ called also triphenyldithiazine. This trimer was prepared in reaction of N,N'-diphenyl-p-phenylenediamine and sulphur in the presence of iodine as a catalyst.



The reaction was carried out in xylene at 165°C during 4 hrs. The product was crystallized from tetrahydrofuran and N,N'-dimethyl-formamide.

The structure of obtained trimer was elucidated by IR, NMR spectra and elemental analysis.

The EPR spectrum of the trimer in the solid state has been also recorded. It shows the signal at value $g = 2,0048$ and a broad line equal 4,5 G. It indicates the presence of free radicals in tri-phenyldithiazine.

In comparison, the phenothiazine in the solid state does not show any signal in EPR spectrum.

Further research on this subject are in progress.