Process for preparation of a negative photoresist composition Status

Name
Cardanol-m-Cresol based ‘semi-alternating’ novolak resin

Status
Available for development and commercialization

Sectors of Application
•Microchip production

Summary
Currently, positive photoresists dominate the international market. Our process offers a negative photoresist which can be developed like a positive photo resist with no smudging of the microelectronic circuits. The process thus combines advantages of both the positive and negative photoresists. Another point worth noting is that one of the starting materials is a low cost, indigenous natural product available from the Cashew Nut.

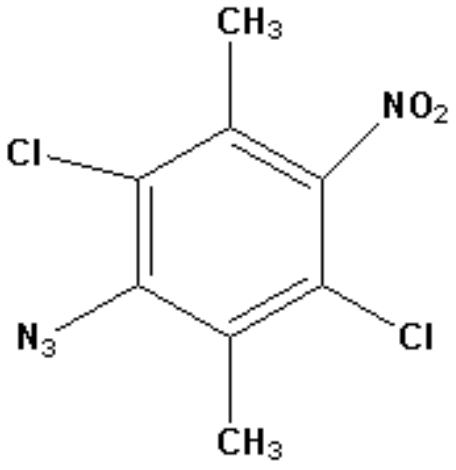
Additional Information
1. Sharma, M., Naik, A. A., Gaur, M., Raghunathan, P. and **Eswaran, S. V. (2009)** Azido-*m-meconine*- ‘high ortho’: Novolak resin based negative photoresists for deep UV lithography *J. Chem. Sci.*, **121**, 503-508.

1-Azido-2, 5-dichloro- 4, 6-dimethyl Benzene

Name
1-Azido-2, 5-dichloro-3,6-dimethyl-4-nitrobenzene

Status
Available for development and commercialization

Chemical Structure



$C_8H_6Cl_2N_4O_2$
Molecular weight: 261.06500

Sectors of Application

•Medicine
•Agriculture – Crop Protection (Pesticide)

Summary

1-Azido-2, 5-dichloro- 4, 6-dimethyl Benzene aryl azide has shown inhibitory activity against *E. coli* and *C. juncea* (Jute).

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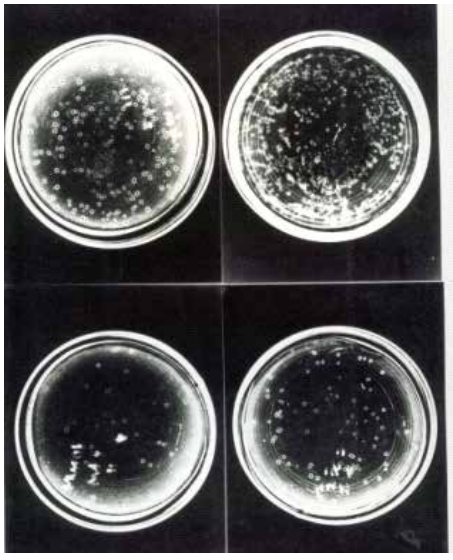


E. coli

C. juncea (Jute).

Additional Information

Eswaran, S. V.; Sajadian, S. K. *Synt. Commun.*,1988,18, 15 p. 1807 - 1820.

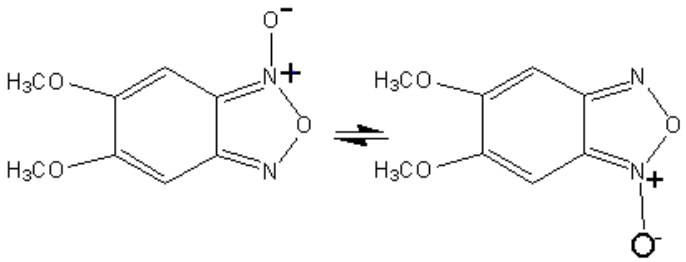
Name

5, 6- Dimethoxy Benzofuroxan

Status

Available for development and commercialization

Chemical Structure



Fungi (MIC in µg/ ml): 12 µg/ ml)

1	2	3	4	5	6
25	25	25	50	50	50

1. Candida albicans

2. Crytococcus neoformans

3. Sporothrixschenckii

4. Trichophyton mentagrophytes

5. Aspergillus Fumigatus

6. Candida parapsilosis

Summary

It shows *anti-fungal* activity against a range of fungi at 12 *µ*g/ mL. Also, 5, 6-dimethoxy benzofuroxan and 2, 3-dimethoxy-indolo (2, 3-b) quinoxaline-5, 11-dioxide prepared by us have shown anti-M. Tb. / anti-fungal activity.

Some of these compounds have shown activity against *Mycobacterium tuberculosis* (M. Tb.) at 8-16 *µ*g/ml.5, 6-Dimethoxy benzofuroxan shows anti M. Tb. activity at 8 *µ*g/ml.

6H-Indolo (2, 3 –b) quinoxaline-5, 11-dioxide

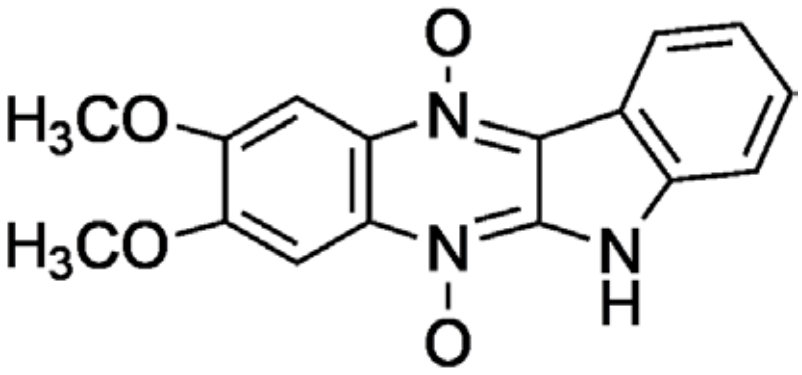
Name

6H-Indolo (2, 3 –b) quinoxaline-5, 11-dioxide

Status

Available for development and commercialization

Chemical Structure



Sectors of Application

- Medicine
- Agriculture – Crop Protection (Pesticides)

Summary

A process for preparing 2, 3-dimethoxy-6H-indolo [2,3-b] quinoxaline 5,11-dioxide, useful as a bacteriostatic agent and feed additive. The process involves reaction of dimethoxybenzofuroxan with indole in the presence of an agent such as NaOMe-MeOH, followed by acidification (preferably with a mineral acid such as HCl), filtration, washing with H2O and MeOH, drying, and crystallisation from hot AcOH. An example reaction, conducted at reflux for 12 h, gave the title compound in 26.7% yield. It shows anti *M. tuberculosis* activity at 8 μg/ ml.

Additional Information

- Process for preparation of a Dimethoxy indoloquinoxaline dioxide useful as a bacteriostatic and feed additive. *Indian patent*, 1992, IN 170838