

Author's Accepted Manuscript

Chemical synthesis of lipophilic methylene blue analogues which increase mitochondrial biogenesis and frataxin levels

Indrajit Bandyopadhyay, Sandipan Roy
Chowdhury, Nishant P. Visavadiya, Sidney M.
Hecht, Omar M. Khdour



www.elsevier.com/locate/dib

PII: S2352-3409(18)31008-4S0968-0896(18)30671-0
DOI: <https://doi.org/10.1016/j.dib.2018.08.156>
Reference: DIB3044

To appear in: *Data in Brief*

Received date: 5 May 2018
Accepted date: 24 August 2018

Cite this article as: Indrajit Bandyopadhyay, Sandipan Roy Chowdhury, Nishant P. Visavadiya, Sidney M. Hecht and Omar M. Khdour, Chemical synthesis of lipophilic methylene blue analogues which increase mitochondrial biogenesis and frataxin levels, *Data in Brief*, <https://doi.org/10.1016/j.dib.2018.08.156>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

*Data article***Chemical synthesis of lipophilic methylene blue analogues which increase mitochondrial biogenesis and frataxin levels**

Indrajit Bandyopadhyay, Sandipan Roy Chowdhury, Nishant P. Visavadiya, Sidney M. Hecht, Omar M. Khmour*

Biodesign Center for BioEnergetics, and School of Molecular Sciences, Arizona State University, Tempe, AZ 85287, USA

Contact email: khmour@asu.edu (O.M. Khmour)

Abstract

As part of an ongoing program to develop potential therapeutic agents for the treatment of the neurodegenerative disease Friedreich's ataxia (FRDA), we have prepared a number of lipophilic methylene blue analogues. Some of these compounds significantly increase mitochondrial biogenesis and frataxin levels in cultured Friedreich' ataxia cells [1]. This data article describes the chemical synthesis and full physicochemical characterization of the new analogues.

Specifications Table *[please fill in right-hand column of the table below]*

| | |
|----------------------------|---|
| Subject area | <i>Chemistry</i> |
| More specific subject area | <i>Lipophilic methylene blue analogues</i> |
| Type of data | <i>Synthetic schemes and methods, physicochemical characterization</i> |
| How data was acquired | <i>Chemical synthesis, NMR (Varian 400 MHz), mass spectrometry (JEOL LCMate LC-MS)</i> |
| Data format | <i>Analyzed</i> |
| Experimental factors | <i>Several lipophilic methylene blue analogues were prepared by chemical synthesis, starting from 2-cyanophenothiazine</i> |
| Experimental features | <i>N-protected 2-cyanophenothiazine was converted to the respective aldehyde, enabling introduction of the lipophilic substituents via a Wittig reaction and of the dialkylamines at positions 3 and 7 by treatment with the amines in the presence of iodine</i> |
| Data source location | <i>Biodesign Center for BioEnergetics and School of Molecular Sciences, Arizona State University, Phoenix, AZ</i> |
| Data accessibility | <i>State if data is with this article or in public repository. If public repository, please explicitly name repository and data identification number and provide a direct URL to data</i> |

Download English Version:

<https://daneshyari.com/en/article/11000387>

Download Persian Version:

<https://daneshyari.com/article/11000387>

[Daneshyari.com](https://daneshyari.com)