
[Skip to Main Content](#) if(true) { document.getElementById("skipNavigationLink").onclick =function skipElement () { var element = document.getElementById('article__content'); if(element == null || element == undefined) { element = document.getElementsByClassName('article__content').item(0); } element.setAttribute('tabindex','0'); element.focus(); } }



[Access byCAS - National Science Library](#)

[Access byCAS - National Science Library](#)

- [This Journal](#)
- [Anywhere](#)

-
-

[Login / Register](#)

The full text of this article hosted at iucr.org is unavailable due to technical difficulties.

googletag.cmd.push (function () { googletag.display ('advert-leaderboard'); }); _

[Bulletin of the Korean Chemical Society](#)

[Volume 37, Issue 8](#)

Two New Bithiophenes Derivatives Multielectrochromic Copolymer Based on Triphenylamine Unit and Their Application for Electrochromic Devices

[Yan Zhang](#)

Shandong Key Laboratory of Chemical Energy Storage and Novel Cell Technology, Liaocheng University, Liaocheng 252059, P. R. China

[Search for more papers by this author](#)

[Lingqian Kong](#)

Dongchang College, Liaocheng University, Liaocheng 252059, P. R. China

[Search for more papers by this author](#)

[Xuezhong Liu](#)

Liaocheng People's Hospital, Liaocheng 252000, P. R. China

[Search for more papers by this author](#)

[Chunlei Wang](#)

Shandong Key Laboratory of Chemical Energy Storage and Novel Cell Technology, Liaocheng University, Liaocheng 252059, P. R. China

[Search for more papers by this author](#)

[Jinsheng Zhao](#)

Corresponding Author

E-mail address:j.s.zhao@163.com

Shandong Key Laboratory of Chemical Energy Storage and Novel Cell Technology, Liaocheng University, Liaocheng 252059, P. R. China

[Search for more papers by this author](#)

[Yan Zhang](#)

Shandong Key Laboratory of Chemical Energy Storage and Novel Cell Technology, Liaocheng University, Liaocheng 252059, P. R. China

[Search for more papers by this author](#)

[Lingqian Kong](#)

Dongchang College, Liaocheng University, Liaocheng 252059, P. R. China

[Search for more papers by this author](#)

[Xuezhong Liu](#)

Liaocheng People's Hospital, Liaocheng 252000, P. R. China

[Search for more papers by this author](#)

[Chunlei Wang](#)

Shandong Key Laboratory of Chemical Energy Storage and Novel Cell Technology, Liaocheng University, Liaocheng 252059, P. R. China

[Search for more papers by this author](#)

[Jinsheng Zhao](#)

Corresponding Author

E-mail address: j.s.zhao@163.com

Shandong Key Laboratory of Chemical Energy Storage and Novel Cell Technology, Liaocheng University, Liaocheng 252059, P. R. China

[Search for more papers by this author](#)

First published: 21 July 2016

<https://doi.org/10.1002/bkcs.10844>

[Read the full text](#)

[About](#)

[PDF](#)

[PDF](#)

[Tools](#)

-
- [Request permission](#)
 - [Export citation](#)
 - [Add to favorites](#)
 - [Track citation](#)

[Share](#)

Give access

[Share full text access](#)

Share full text access

Share a link

- [Email to a friend](#)
- [Facebook](#)
- [Twitter](#)
- [Linkedin](#)
- [Google+](#)
- [Reddit](#)
- [CiteULike](#)

Abstract

Two monomers including 4,4'-bis(4-ethoxyphenyl)-2,2'-biphenyl and 4,4'-bis(4-ethoxyphenyl)-2,2'-biphenyl-3,3'-diyl tris(4-ethoxyphenyl) ether.

2,5-bis(4-dimethoxyphenyl)thiophene (M1) and 4,4'-bis(2,5-dimethoxyphenyl)triphenylamine (M2) with triphenylamine as their core were synthesized and the corresponding polymers were obtained by electrochemical polymerization. Their electrochemical properties were investigated using scanning electron microscopy, UV-Vis, and cyclic voltammetry. It was found that the two polymers had reversible redox behavior with the different color change under the applied potentials. Both the polymers displayed high switching efficiency and optical contrast. Moreover, the corresponding electrochromic devices (ECDs) employing the synthesized polymers and poly(3,4-ethylenedioxythiophene) were constructed. The spectroelectrochemical experiments illustrated that the ECDs exhibited fast response time, reasonable optical contrast, favorable optical memories, and redox stability.

[Supporting Information](#)

[Volume 37, Issue 8](#)

August 2016

Pages 1234-1243

googletag.cmd.push (function () { googletag.display ('advert-rail-1'); }); _

- [Related](#)
- [Information](#)

•

•

googletag.cmd.push (function () { googletag.display ('advert-rail-2'); }); _

-
-

```
var articleRef = document.querySelector('.article__body:not(.show-references) .article__references');  
if (articleRef) { articleRef.style.display = "none"; }
```

[Caption](#)

Additional links

About Wiley Online Library

- [Privacy Policy](#)
 - [Terms of Use](#)
-

-
- [Cookies](#)
 - [Accessibility](#)

Help & Support

- [Contact Us](#)

Opportunities

- [Subscription Agents](#)
- [Advertisers & Corporate Partners](#)

Connect with Wiley

- [The Wiley Network](#)
- [Wiley Press Room](#)

Log in to Wiley Online Library

[NEW USER >](#) [INSTITUTIONAL LOGIN >](#)

Change Password

Congrats!

Your password has been changed

Create a new account

[Returning user](#)

Forgot your password?

Enter your email address below. If your address has been previously registered, you will receive an email with instructions on how to reset your password. If you don't receive an email, you should register as a new user

Please check your email for your password reset instructions.

Request Username

Can't sign in? Forgot your username?

Enter your email address below and we will send you your username

If the address matches an existing account you will receive an email with instructions to retrieve your username

```
if(window._satellite) { _satellite.pageBottom(); }
```

```
var _prum=[['id','59e8fecb3847311aab7b23c6'],['mark','firstbyte',(new Date()).getTime()]];function(){var s=document.getElementsByTagName('script')[0],p=document.createElement('script');p.async='async';p.src="//rum-static.pingdom.net/prum.min.js";s.parentNode.insertBefore(p,s);})();
```