
[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 36, Issue 10](#)

The Electronic and Adsorption Structures of 2- β -Mercaptoethanol and Thioglycolic Acid on the Ge(100) Surface

[Hangil Lee](#)

Corresponding Author

E-mail address: easyscan@sookmyung.ac.kr

Department of Chemistry, Sookmyung Women's University, Seoul 140-742, Republic of Korea

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

[Hangil Lee](#)

Corresponding Author

E-mail address: easyscan@sookmyung.ac.kr

Department of Chemistry, Sookmyung Women's University, Seoul 140-742, Republic of Korea

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

First published: 02 September 2015

<https://doi.org/10.1002/bkcs.10468>

[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

The adsorption selectivity of 2-mercaptoethanol (2-ME) and thioglycolic acid (TGA) was studied on the Ge(100)-2 \times 1 surface using high-resolution photoemission spectroscopy (HRPES) and the corresponding density functional theory (DFT) calculations. HRPES analysis results indicated that an O⁻H dissociated S⁻H dissociation bonded structure at low coverage and an O⁻-dative bonded structure at high coverage are the stable adsorption structures of 2-ME on the Ge(100) surface. In addition, a S⁻H dissociated Q⁻-dative bonded structure at low coverage and a S⁻-dative bonded structure at high coverage are reasonable adsorption structures of TGA on the Ge(100) surface. Through work function measurements, we also confirmed that the forms of the adsorption structures of 2-ME and TGA can be determined by n -type (dissociation bonded structure) and p -type (dative bonded structure) properties. Moreover, the adsorption structures of 2-ME and TGA on the Ge(100)-2 \times 1 surface were determined through DFT calculations, and the respective stable adsorption structures, transition state energy, and reaction pathways were obtained.

[Volume36, Issue10](#)

October 2015

Pages 2440-2445

```
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](#)

Copyright © 1999-2018 [John Wiley & Sons, Inc.](#) All rights reserved

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.creat  
eElement('script');p.async='async';p.src='//rum-  
static.pingdom.net/prum.min.js';s.parentNode.insertBefore(p,s);})();
```