



SDI Review Form 1.6

Journal Name:	American Chemical Science Journal
Manuscript Number:	2014_ACSj_14902
Title of the Manuscript:	Kinetic of Corrosion for V_2AlC and Cr_2AlC at pH=11.7
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<u>Compulsory</u> REVISION comments	1. There is no direct relationship between the title of your paper and the objective of your research in row 32-35. the objective of your research was only estimate the corrosion resistance of these compounds, whereas the title of your paper and the abstracts explained the thermodynamical aspects for corrosion process. Please to declare in the objective of research. 2. In row 41, You characterized the compounds by using Scanning electron microscope (SEM). Unfortunately, the reviewer did not see several data from SEM such as SEI and EDAX. Please to show these data into manuscript to support your discussion. 3. The reviewer want to know the reason why the author decided to choose the medium of 0.01 N Ca(OH)₂ at pH of 11.7 for observing the behavior of corrosion for the compounds. The reviewer suggest to add the reason and references why you choose this medium and certain pH in an introduction	✓ ✓ Because calcium hydroxide is a main component of the corrosion in concrete and we tried to find a reproducible industrial materials.



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	section. 4. The reviewer suggest to use the standard international (SI) of degree Kelvin for the temperature in your manuscript 5. In row 77, You mention the relationship between deltaG versus T plot at various temperatures in Figure 2 ?, please check again 6. In row 278, you did not elucidate the figure 5 (Arrhenius plot for MAX phase materials) in results and discussion section. please to add some sentences in this section. 7. In result and discussion section, you explained that the higher corrosion resistance of V₂AlC due to the protective film of vanadium oxide on material surface. You have to conduct the other experiments to explain the higher corrosion resistance of this compound due to the protective film or refer to some other references to support your reason. 8. In row 94, you mention values of log 1_{corr} versus I/T in Fig. 3. Are you sure ?. Please check again	✓ ✓ ✓ It`s impossible now. ✓
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	9. In experimental procedure section, you conducted the experiment at four different temperatures (303, 313, 323 and 333K). Unfortunately, you did not explain the effect of activation energy values, delta G values from various temperatures in result and discussion section. Please to elucidate it. 10. In conclusion section, you explained that the corrosion process of V₂AlC less spontaneous than for Cr₂AlC through the change in free energy value shown as Fig.4. In this figure, The increase of temperatures decrease free energy in V₂AlC compound, but not in Cr₂AlC. The reviewer suggest that the author can elucidate in result and discussion section.	✓ ✓
<u>Minor</u> REVISION comments		
<u>Optional/General</u> comments	Please check again your structure and grammar of english in your manuscript.	