



SDI Review Form 1.6

Journal Name:	International Research Journal of Pure and Applied Chemistry
Manuscript Number:	2014_IRJPAC_11331
Title of the Manuscript:	Thermal Properties and Structures of CsHSO ₄ and CsDSO ₄ Crystals
Type of the 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>)



SDI Review Form 1.6

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)
Compulsory REVISION comments		
Minor REVISION comments	This paper is well documented and the reviewer has no comment about the experiments and their interpretation. However I have a small comment about the deuterated samples: on line 43 it is written "partially deuterated CsDSO₄". Similarly on line 78 the deuterated were prepared from "mixed D₂O solution". The amount of deuterium in the samples (literature and the present work) should be given.	Three papers on the crystal structure of partially deuterated CsDSO₄ crystal determined by X-ray or neutron powder diffraction have been reported so far. The deuteration rate of the deuterated crystal in the two papers has been indicated to be 67% and 77%, respectively. However, there is no description of the deuteration rate in the rest of the literature (ref. 20 by Merinov et al.), and the crystal growth process has also not been described in it. The deuteration rate of the sample crystal in this literature cannot be confirmed (or estimated). Therefore, the deuteration rate of the partially deuterated crystal in Introduction (on line 43) cannot be added to the revised manuscript. In this study we used deuterated CsDSO₄ crystals which were recrystallized five times from D₂O solution by the evaporation method. It has been reported in the previous paper (Fukami et al., Solid State Ionics 98 (1997) 105-111) that the deuteration rate of deuterated (ND₄)₃D(SO₄)₂ crystal recrystallized four times from D₂O solution was estimated to be about 93%. Thus, the deuteration rate of the CsDSO₄ crystals in this study is considered to be above 93%, since using the same method of crystal growth. The deuteration rate of the sample crystals cannot be determined by apparatuses in our laboratory. Therefore, the deuteration rate of the deuterated crystals in this study (on line 78) cannot be added to the reversed manuscript.
Optional/General comments		