



SDI Review Form 1.6

Journal Name:	Advances in Research
Manuscript Number:	2014_AIR_9672
Title of the Manuscript:	Rapid chemical bath deposition and optical property of CuS films using sodium ethylenediamine tetraacetate as chelating agent
Type of the Article	Method 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:

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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)
Compulsory REVISION comments	<ol style="list-style-type: none"> 1) The authors should write the value of increase in the deposition rate comparing with the previous studies, because "fast fabrication" was stated in line 48. 2) The authors should explain the mechanism why 50 °C was good and room temperature was not good. (Line 61-63) 3) The uniform particles could not be identified in Figure 2. How was their average size (increased from which to which)? Three-dimensional indication is especially welcome. 4) The authors mentioned that the maximum deposition rate was obtained at DETA-2Na:Cu²⁺=1.0 as shown in Figure 3. However, for obtaining this conclusion, more data points should be necessary, such as those at 0.75 and 1.25. Only one maximum point without the trend around it might be caused by any accident. 5) The composition of CuS and Cu₂S in the film should be given. The authors mentioned Cu₂S decreased with the increase in deposition time in Figure 1. However, the decrease in transmission after long deposition was explained relating to higher transmittance of Cu₂S than CuS. There might be contradiction. 6) In the characterization, film quality, band gap, and transmittance, changing with the deposition condition, should be discussed relating to any crystallographic evidence. 	<ol style="list-style-type: none"> 1. Line 111, As a comparison, a room temperature CBD deposited CuS films with a thickness of ~470 nm taken ~8 h [16]. 2. Line 63, sentence: "However, at 50 °C the deposited films are dark brown, which may indicates the formation of CuS crystal phase" is added in line 63. 3. Sentence: "The films were composed of uniform particles" is revised as "The each film was composed of uniform particles"; 4. This conclusion was obtained from the samples deposited for three deposition times. 5. Line 119, sentence: "However, the decrease in transmission with the deposition time does not seem to scale with the film thickness" is revised as "However, the decrease in transmission with the deposition time seems to be out of scale with the film thickness". 6. Line 121, "In addition, the transmittance is also associated with average particle size, crystallinity, crystal orientation to some extent: is added; Line 136, "This could be ascribed to quantum refinement effect due to increase of average particle size with deposition time" is added.



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	7) If the high deposition rate was the novelty, its extent should be clearly mentioned with referring evidences.	7. Line 171, "Such deposition rate is larger than that produced by usual chemical bath deposition".
<u>Minor</u> REVISION comments	1) Please explain the information included in Figures 4 (a) and (c).	Line 117, ", while the films deposited with EDTA-2Na/Cu ²⁺ =0.5 and 1.5 show relative small transmittance decreases with deposition time" is added.
<u>Optional/General</u> comments	Line 45: "niktrate" should be "nitrate". Line 100 and 103: "Cu ²⁺ anion" should be "Cu ²⁺ cation"	Line 45 (46 in revision): "niktrate" has been corrected as "nitrate". Line 100 and 103 (107 and 110 in revision): "Cu ²⁺ anion" has been corrected as "Cu ²⁺ cation"