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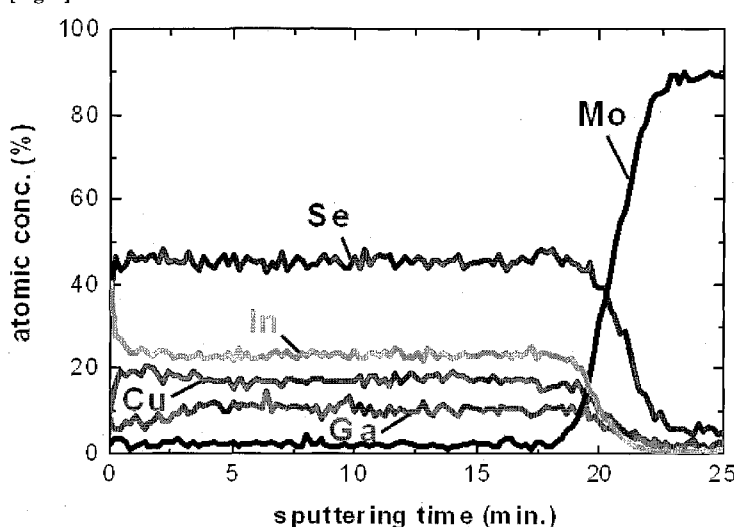
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[Continued on next page]

(54) Title: METHOD OF MANUFACTURING CIGS THIN FILM WITH UNIFORM Ga DISTRIBUTION

[Fig. 5]



(57) Abstract: A method of manufacturing a CIGS thin film with a uniform Ga distribution and a method of manufacturing a solar cell using the method are provided. The method of manufacturing a CIGS thin film with a uniform Ga distribution includes: (a) forming a Cu-In-Ga-Se precursor thin film comprising a seleni de-based compound having a covalently-bonded structure on a substrate; and (b) selenizing the precursor thin film formed in step (a). Accordingly, it is possible to uniformize the Ga distribution in a CIGS thin film and thus to enhance the efficiency of a solar cell having the CIGS thin film, by changing the sputtering precursor to a seleni de-based compound instead of pure metal or alloy to suppress the segregation of Ga in the thermal process in the Se atmosphere.



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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords:CIGS, Se

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KR 10-2009-0043245 A (KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY) 6 May 2009	1-3, 5-7, 13
Y	See paragraph [38-43] and figure 1	4, 8-12
Y	KR 10-2010-0058751 A (KOREA PHOTONICS TECHNOLOGY INSTITUTE) 4 June 2010 See paragraph [10].	4, 8-12
A	US 6,048,442 A (KATSUMI KUSHIYA et al.) 11 April 2000 See figure 2.	1-13

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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