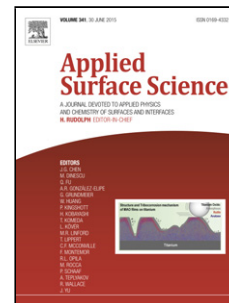


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Formation of silicon carbide by laser ablation in graphene oxide – N-Methyl-2-Pyrrolidone suspension on silicon surface

Babak Jaleh ^{a,*}, Samaneh Ghasemi ^a, Mohammad Javad Torkamany ^b, Sadegh Salehzadeh ^c and Farahnaz Maleki ^c

^aDepartment of Physics, Faculty of Science, Bu-Ali Sina University, Hamedan, Postal Code 65174 Iran

^bIranian National Center for Laser Science and Technology (INLC), PO Box 14665-576 Tehran, Iran

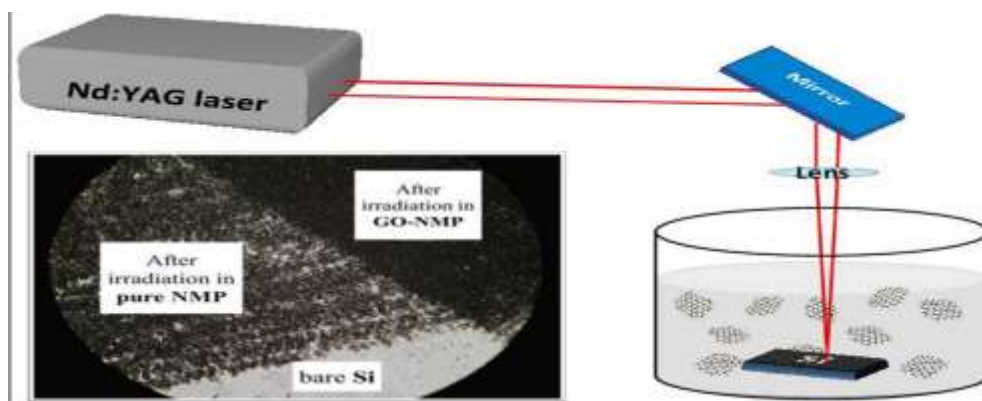
^cDepartment of Organic Chemistry, Faculty of Chemistry, Bu-Ali Sina University, Hamedan 6517838683, Iran

* Corresponding author.

E-mail addresses: bkjaleh@yahoo.com, jaleh@basu.ac.ir

Phone: +98 09122114707. Fax: +98 08138381470

Graphical abstract



Highlights

- Investigation of laser irradiation effects on the silicon wafer in graphene oxide-N-methyl-2-pyrrolidone (GO-NMP) suspension.
- The XRD analyses, Raman and XPS spectra of silicon wafer after laser irradiation showed that 4H-SiC layer is formed on its surface.
- Theoretical calculations confirms that the formation of silicon carbide from the graphene oxide and silicon wafer is considerably endothermic.
- We suggest that material laser processing in the presence of carbon structures in liquid media is a quick and one-step green method for fabrication carbide layer on surface of target.

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