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Study of quantitative analysis method of organic molecules in self-assembled monolayer adsorbed on the surface

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A quantitative analysis method of calculating the concentration of probe and target molecules on the surface using medium energy ion scattering (MEIS) and UV-VIS absorption spectrophotometer was developed. Self-assembled monolayer of 3-aminopropyltrimethoxysilane (APTMS) became formed on a cleaned SiO₂/Si wafer and fused silica surface⁽¹⁾, and its amino group was hybridized with 4-bromo-benzaldehyde. The atomic concentrations of nitrogen in probe molecule and of bromine in target molecule adsorbed on the surface were precisely measured by using the MEIS technique. The 4-bromo-benzaldehyde having reacted with amino groups on the surface were separated from the surface by hydrolysis; its concentration was measured by using the UV-VIS absorption spectrophotometer⁽²⁾. Results of MEIS and UV-VIS experiments are compared and discussed.

[참고문헌]

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