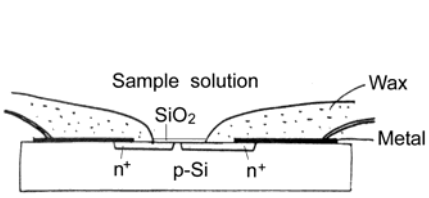
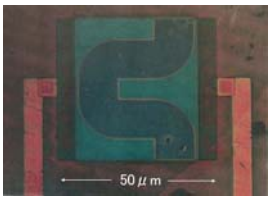
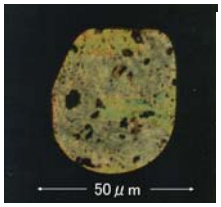
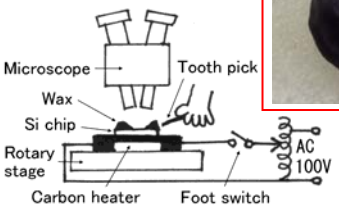
D2

Semiconductor Ion Sensor (ISFET)





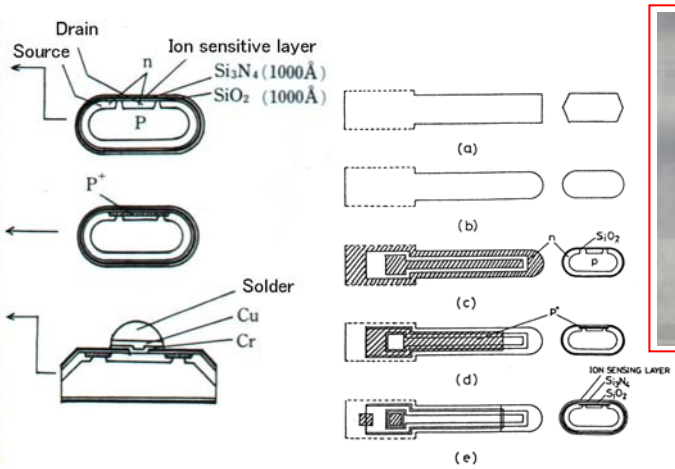


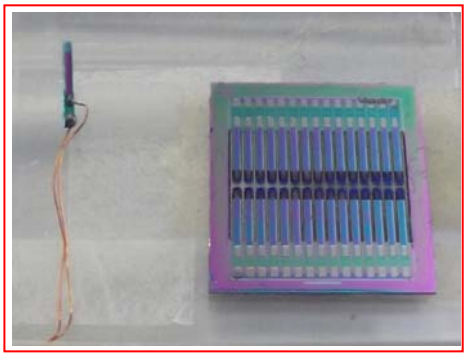


Medical active electrode

Reference : T.Matsuo, M.Esashi, K.Iinuma, Medical Active Electrode Using Field Effect of Semiconductor(1), Tohoku Convention in Electrical Soc.. (1971) p.28

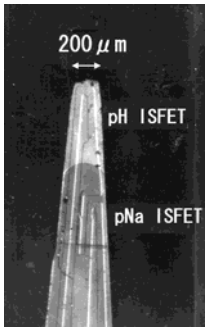
M.Esashi, T.Matsuo, Medical active electrode using field effect of semiconductor—Operation as a cation selective electrode—, 12th Convention ME&BE, (1973) pp.507-508

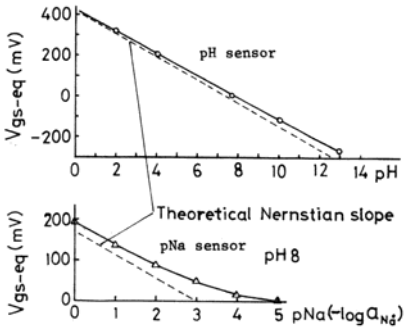


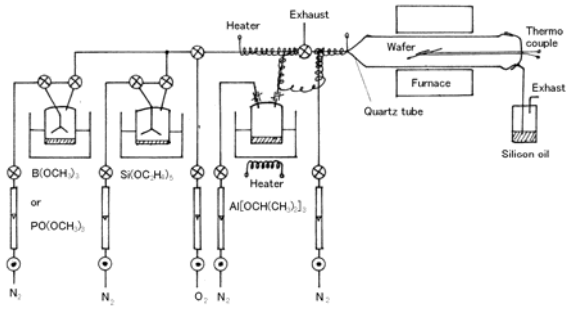


ISFET (Ion Sensitive Field Effect Transistor)

Reference : M.Esashi and T.Matsuo, Biomedical Cation Sensor Using Field Effect of Semiconductor, J. of the Japan Soc. of Applied Physics, 44, Supplement (1975) pp.339-343

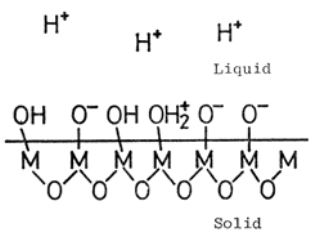






Multi ion sensitive ISFET

Reference : M.Esashi and T.Matsuo, Integrated Micro Multi Ion Sensor Using Field Effect of Semiconductor, IEEE Trans. on Biomedical Engineering, BME-25 (1978) pp.184-192



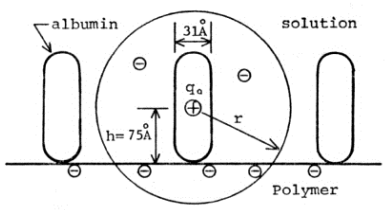
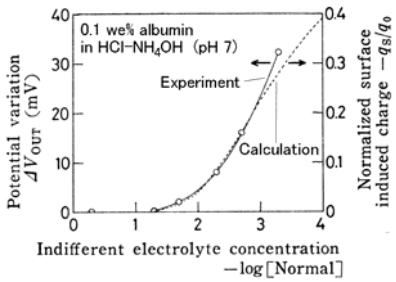


Image Charge Model



Polymer gate FET

Reference : H.Nakajima, M.Esashi and T.Matsuo, The pH-response of Organic Gate ISFETs and the Influence of Macro-molecule Adsorption, J. of Chemical Soc. of Japan, 10 (1980) pp.1499-1508