James Sibarani
ID Number : 262

ABSTRACT ACCEPTANCE LETTER

Dear James Sibarani

On behalf of the Organizing Committees we would like to thank and appreciate for your great contribution in ICICS 2015.

Here we would like to inform you that your abstract entitled

**Nonbiofouling Surface on Poly(dimethyl siloxane)(PDMS) Prepared by “Grafting from” Technique of Poly(acrylic Acid) Using Photoioniferter**

has been accepted in the track of **Biomaterial, Nanochemistry and Polymer Chemistry**

as **Oral Presentation** in The 4th International Conference of The Indonesian Chemical Society 2015 (ICICS 2015)

The full manuscript will be due on September 30, 2015 and will be reviewed for publications in **The Indonesian Journal of Chemistry (IJC), Jurnal Natur Indonesia (J. Nat. Indones.), Jurnal Kimia Indonesia (J. Kim. Indones.), and Journal of the Indonesian Chemical Society (J. Indones. Chem. Soc.),** and the research in progress will be published in the proceeding book. Detailed information about of this publications will be confirm later.

Presenters who do not register and pay in full by September 23, 2015 will not be included in the schedule and their abstract will not be printed in the Abstract Book.

We are very grateful for the contribution, and looking forward to receiving your full manuscript and registration. Please do not hesitate to contact us if you have any further inquiry and we look forward to welcoming you on September 29-30, 2015 in Medan, Indonesia.

Yours sincerely,

Prof. Dr. Harry Agusnar, M.Sc
Chair of The ICICS 2015
Nonbiofouling Surface on Poly(dimethylsiloxane) (PDMS) Prepared by “Grafting From” Technique of Poly(Acrylic Acid) Using Photoiniferter

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The purpose of this study is to generate nonbiofouling surface on PDMS substrate by exploring ‘grafting from’ copolymerization technique using living radical polymerization based on dithiocarbamate chemistry as photoiniferter (initiator, transfer and terminator). PDMS substrates were prepared by mixing PDMS prepolymer and curing agent and heated at 70°C for 2 hours. The PDMS substrates were oxidized by UV/Ozone followed by attaching 1-trichlorosilyl-2-(m,p-chloromethylphenyl)ethane and sodium N,N-diethyldithiocarbamate as photoiniferter. Further, grafting process of poly(acrylic acid) onto photoiniferter -attached PDMS was conducted by UV irradiation of poly(acrylic acid) solution. The characterization of the modified PDMS surfaces was conducted by attenuated total reflectance FTIR, laser induced breakdown spectroscopy (LIBS), atomic force microscopy (AFM), water contact angle, protein adsorption and cell attachment. Based on the characterizations of the PDMS substrate and modified PDMS revealed that the grafting process of poly(acrylic acid) has been successfully conducted. The average roughness and the root mean square roughness of surfaces increased from 3.40 nm dan 4.62 before grafting to 9.11 nm dan 13.1 nm; 13.6 nm dan 18.1 nm; 14.8 nm dan 18.3 nm respectively after grafting with different UV irradiation time of 1 hour, 2 hours, and 3 hours. Non-specific protein adsorption was greatly suppressed on modified surfaces. In conclusion, the surface modification of PDMS substrate has been successfully conducted and the non-biofouling properties of the modified surfaces have been confirmed by suppressing the non-specific protein adsorption although the cell attachment still needed to be confirmed.

REFERENCES