APPENDICES

APPENDIX A

Biogas Chromatograph

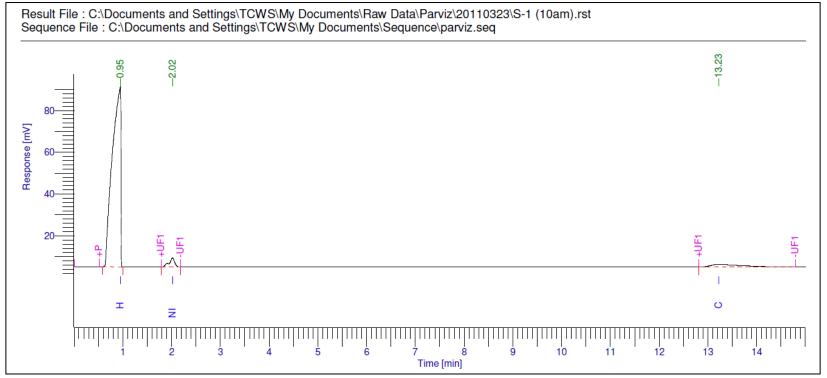


Figure A.1. Chromatograph of the biogas produced from the UASB-FF bioreactor

APPENDIX B

Volatile Fatty Acids (VFA_s) Chromatograph

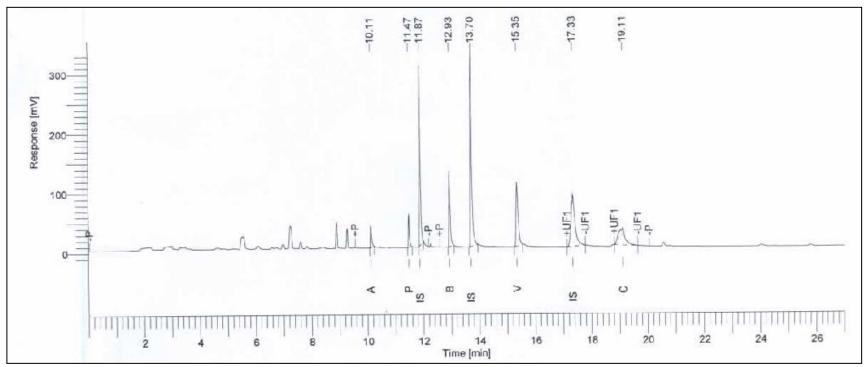


Figure A.2. Chromatograph of standard peak of VFAs solution (volatile free acid mix used as standard)

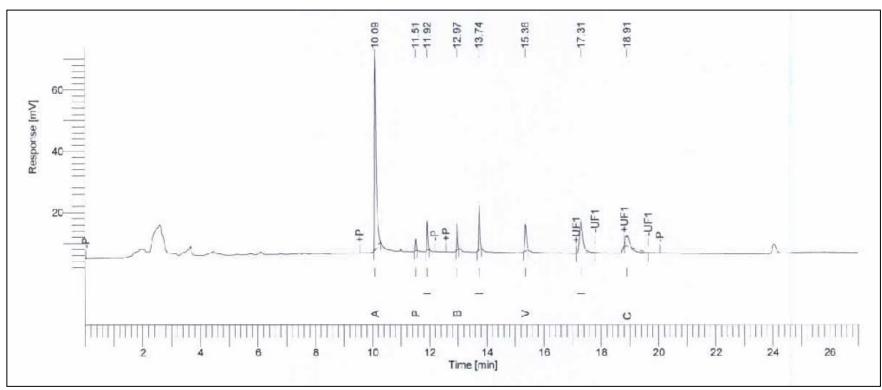


Figure A.3. Chromatograph of effluent VFAs obtained on fermentative hydrogen production from POME from the working UASB-FF bioreactor (volatile free acid mix used as standard)

LIST OF PUBLICATIONS

- Parviz Mohammadi, Shaliza Ibrahim, Mohamad Suffian Mohamad Annuar, Z.S.
 Law. Effect of different pre-treatment methods on anaerobic mixed microflora for hydrogen production and COD reduction from palm oil mill effluent. *Journal of Cleaner Production*, 19 (2011) 1654-58. (ISI)
- Parviz Mohammadi, Shaliza Ibrahim, Mohamad Suffian Mohamad Annuar, Shahin Ghafari, S. Vikineswary, Aliakbar Zinatizadeh. Influences of environmental and operational factors on dark fermentative hydrogen production: A review". Clean-Soil, Air, Water, 40 (2012) 1297-1305. (ISI)
- 3. **Parviz Mohammadi**, S. Ibrahim, M.S. Mohamad Annuar. Comparative study on effect of various pretreatment methods on the enrichment of hydrogen producing bacteria in anaerobic granulated sludge from brewery wastewater. *The Korean Journal of Chemical Engineering*, 29 (2012) 1347-1351. (*ISI*)
- 4. **Parviz Mohammadi**, Shaliza Ibrahim, Mohamad Suffian Mohamad Annuar. Effects of biomass, COD and bicarbonate concentrations on fermentative hydrogen production from POME by granulated sludge". Submitted in *International Journal of Hydrogen Energy*, 37 (2012) 17801-17808. (ISI)
- 5. Parviz Mohammadi, Shaliza Ibrahim, Mohamad Suffian Mohamad Annuar. Optimization of biohydrogen production from palm oil mill effluent digestion in an up-flow anaerobic sludge fixed film bioreactor. Submitted in *Journal of Cleaner Production*, (2012), under revision, (*ISI*).