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APPENDIX

High Performance Liquid Chromatography (HPLC)

The unknown samples were identified by comparing retention time of unknown sample with standard sample. The height and the area of a peak were proportional to the concentration of the corresponding component. A calibration curve was created using the standard samples. The concentration of the unknown samples was determined from the peak areas of the detected sample using equation obtained from the standard curve, showing below.

Table A Peak areas and retention times of standard glucose

Glucose Concentration (g/l)	Peak Area	Retention Time (min)
2.0	1085103.2	8.664
4.0	2042758.81	8.676
6.0	3272029.52	8.682
8.0	4444526.73	8.696
10.0	6402279.29	8.695

Table B Peak areas and retention times of standard xylose

Xylose Concentration (g/l)	Peak Area	Retention Time (min)
2.0	1242932.8	9.223
4.0	2366334.39	9.235
6.0	3838090.08	9.242
8.0	5235206.87	9.256
10.0	7723130.77	9.256

Table C Peak areas and retention times of standard arabinose

Arabinose Concentration (g/l)	Peak Area	Retention Time (min)
2.0	1098848.0	10.111
4.0	2113274.4	10.125
6.0	3434609.2	10.133
8.0	4691570.4	10.149
10.0	7243522.34	10.143

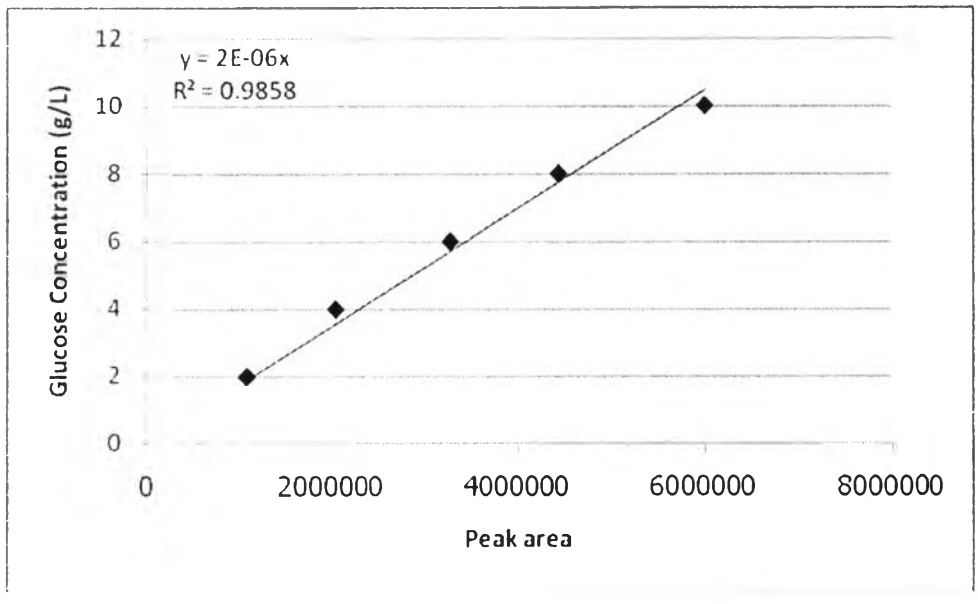

Figure A Relationship between peak area and glucose concentration.

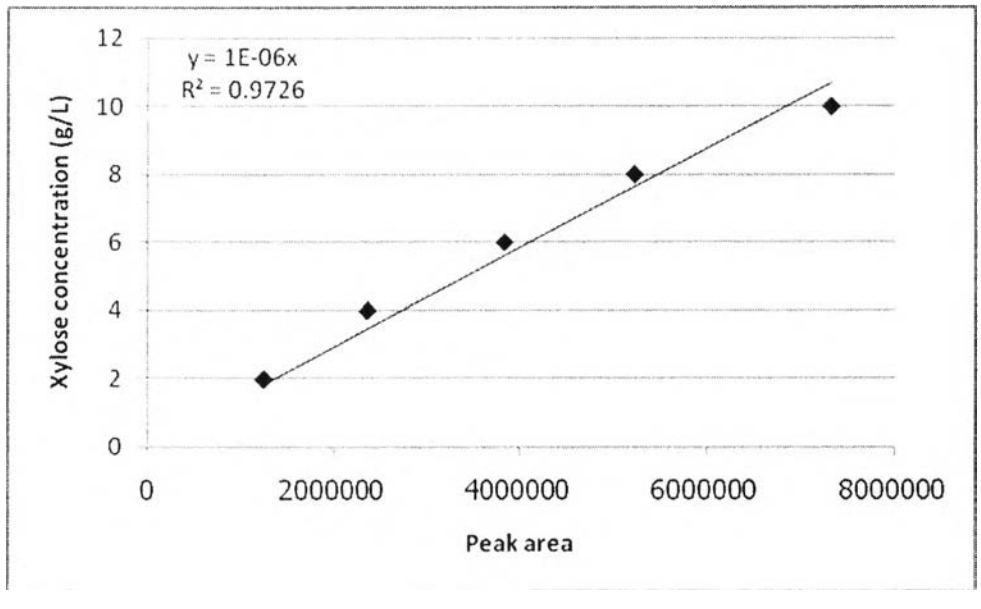

Figure B Relationship between peak area and xylose concentration.

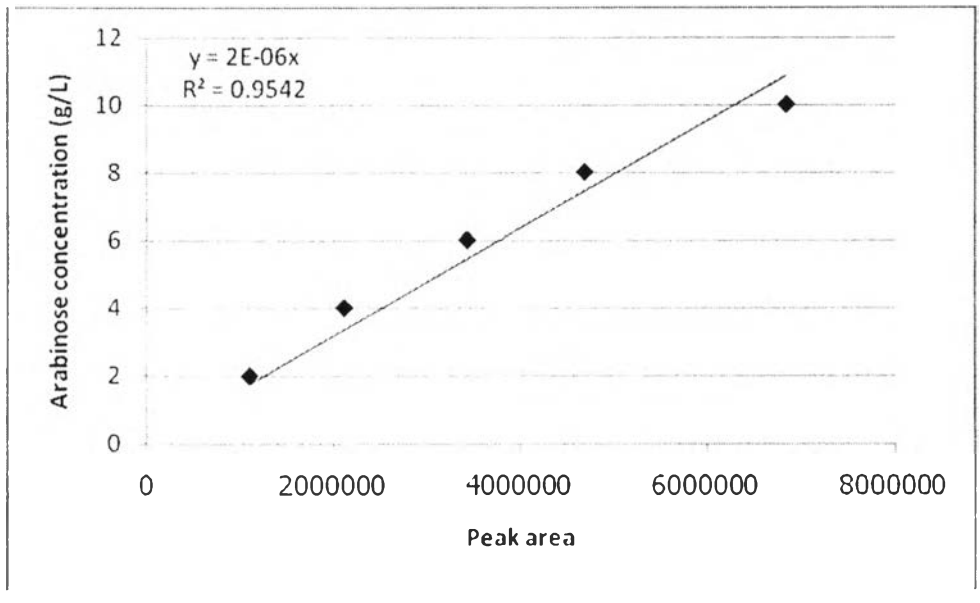

Figure C Relationship between peak area and arabinose concentration.

Equation of standard glucose: y = 2E-06x

Equation of standard xylose: y = 1E-06x

Equation of standard arabinose: y = 2E-06x;

y = peak area,

x = sugar concentration

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