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Electronic Supplementary Information

Microwave-assisted derivatization for fast and efficient analysis of saccharides on disposable microchips

Jinxiu Guo, Shenghong Yang, Xianglu Peng, Fengyun Li, Lei Zhou, Qiaosheng Pu*

State Key Laboratory of Applied Organic Chemistry, Key Laboratory of Nonferrous Metals Chemistry and Resources Utilization of Gansu Province, Department of Chemistry, Lanzhou University, Lanzhou, Gansu 730000, China

* Corresponding author

Department of Chemistry, Lanzhou University, 222 Southern Tianshui Road, Lanzhou 730000, China.

Tel: +86 931 8913813, Fax: +86 931 891 2582.

E-mail address: puqs@lzu.edu.cn (Q.S. Pu)

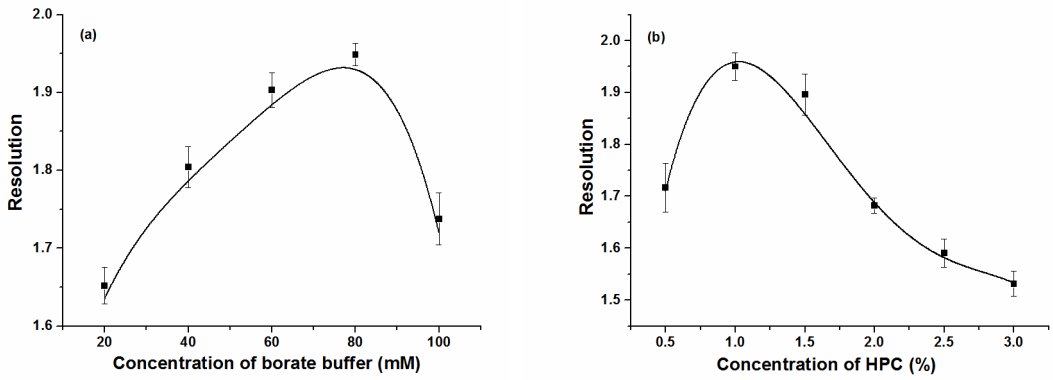


Fig. S1 Effect of (a) borate buffer and (b) HPC concentration on the resolution of xylose and glucose. Other conditions are same as in Fig. 2 b.

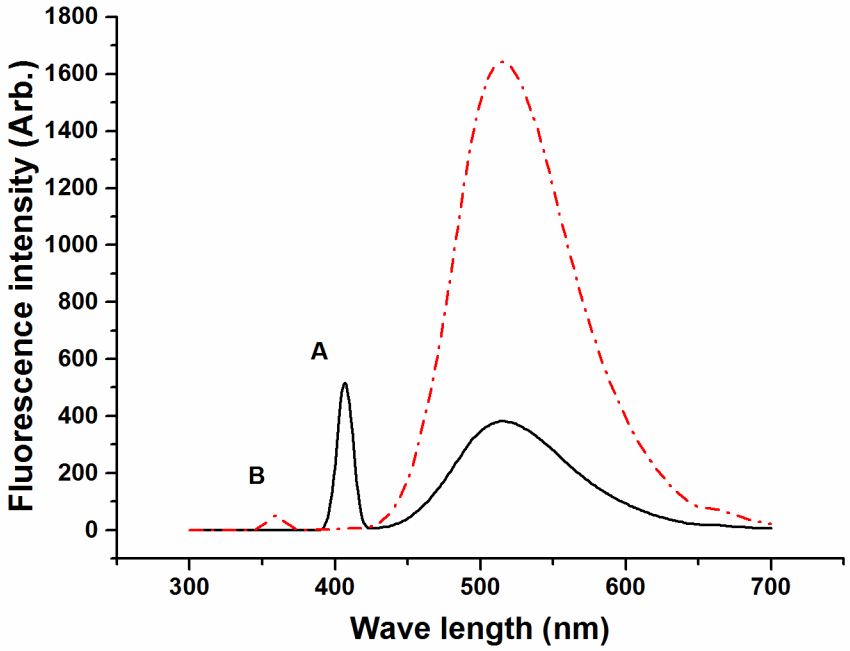


Fig. S2 Fluorescence spectra of ANTS adduct with the 405nm and 356 nm exciting wavelength. A: 405nm; B: 356nm.

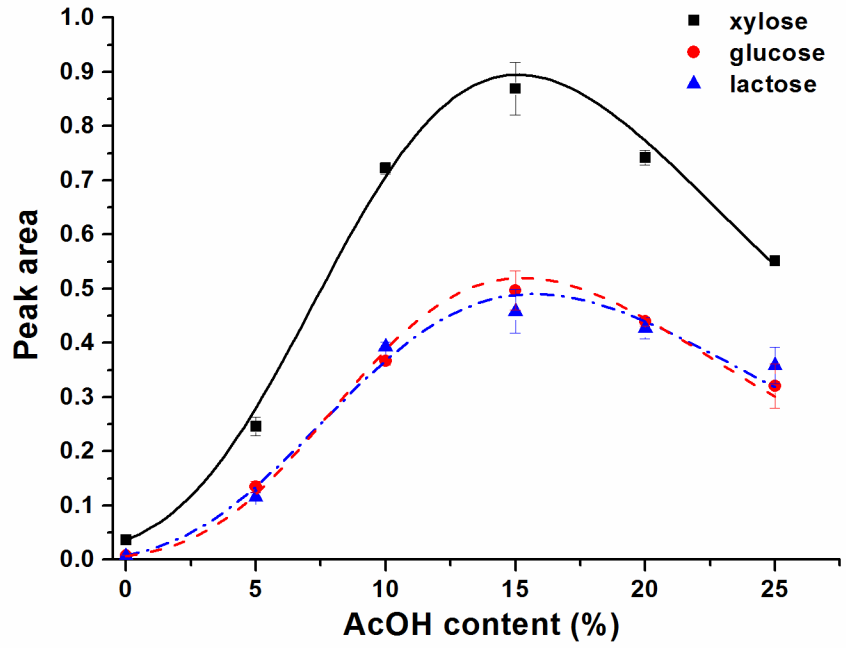
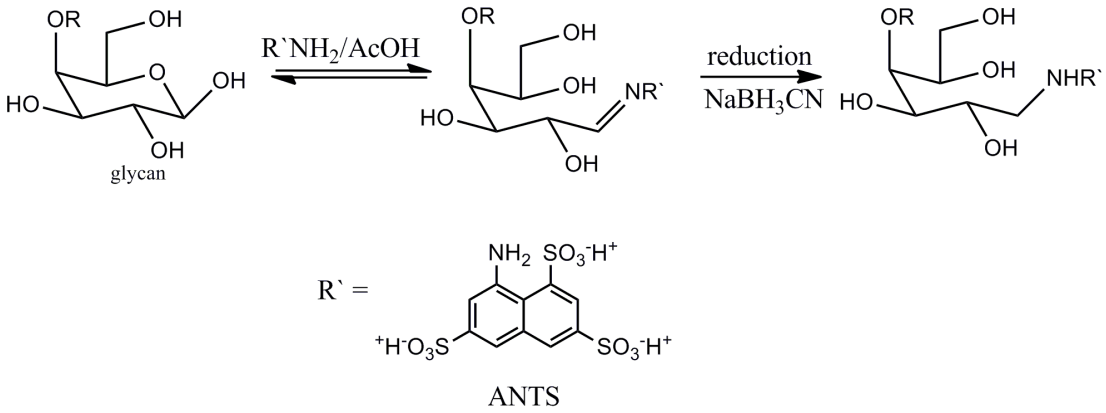


Fig. S3 Effect of the concentration of acetic acid. Conditions are same as in Fig. 4.



Scheme S1 Reaction for the derivatization of saccharides with ANTS.

Table S1 Determination of Saccharides in Human Urine.

Sample	*Analyte*	*Content (mM)*	*Added (mM)*	*Totally found (mM)*	*Recovery (%)*
Healthy human urine (Sample 2)	xylose	n.d.	1.00	0.93	92.8
			2.00	1.82	91.0
			3.00	3.05	101.5
	glucose	0.49	1.00	1.57	107.7
			2.00	2.66	108.3
			3.00	3.33	94.6
	lactose	n.d.	1.00	1.13	112.7
			2.00	2.28	113.8
			3.00	3.16	105.3
Healthy human urine (Sample 3)	xylose	n.d.	1.00	1.14	114.3
			2.00	2.20	109.8
			3.00	2.78	92.9
	glucose	0.40	1.00	1.41	100.7
			2.00	2.64	112.0
			3.00	3.82	113.9
	lactose	n.d.	1.00	1.18	117.5
			2.00	1.97	98.9
			3.00	3.18	105.9
Diabetics urine (Sample 4)	xylose	n.d.	1.00	0.98	98.1
			2.00	1.99	99.7
			3.00	2.86	95.4
	glucose	1.67	1.00	2.77	109.6
			2.00	3.94	113.7
			3.00	5.02	111.6
	lactose	n.d.	1.00	1.17	117.3
			2.00	2.27	113.4
			3.00	3.09	102.9