

Supporting Information

Catechol-Tetraethylenepentamine Co-deposition Modified Cellulose Filter Paper for α -Glucosidase Immobilization and Inhibitor Screening from traditional Chinese medicine

Guang-Zhen Wan^a, Chun-Lin Zhang^{b*} and Juan Chen^{a*}

^a School of Pharmacy, Lanzhou University, Lanzhou, 730000, China

^b The First Hospital of Lanzhou University, Lanzhou 730000, China.

* Corresponding author: Chun-Lin Zhang and Juan Chen

E-mail: chenjuan@lzu.edu.cn (J. Chen)

Tel: 86-931-8915685

Fax: 86-931-8915685

*Correspondence authors: Juan Chen and Chun-Lin Zhang; Tel: 86-931-8915686; Fax: 86-931-8915686;

E-mail: chenjuan@lzu.edu.cn (J. Chen); 2869877954@qq.com (C.L. Zhang)

Table S1. K_m values of immobilized α -glucosidase by different carriers and methods.

Carrier material	Immobilized method	K_m	Reference
Multi-walled carbon nanotubes	Covalent binding	1.97 mM	[1]
Poly(amphoteric) cryogel	Entrapment	1.37 mM	[2]
$\text{Cu}_3(\text{PO}_4)_2 \cdot 3\text{H}_2\text{O}$ hybrid nanoflower	Coordination interaction	0.76 mM	[3]
Cellulose filter paper	Electrostatic adsorption	2.80 mM	[4]
Polyamidoamine-coated Fe_3O_4 nanoparticles	Cross linking	1.00 mM	[5]
Gold nanoparticles modified porous polymer capillary	Covalent binding	2.05 mM	[6]
Catechol-Tetraethylenepentamine Co-deposition	Covalent binding	2.00 mM	
Modified Cellulose Filter Paper			This work

References

- [1] X. Meng, H. Zong, Z. Zheng, J.P. Xing, Z.Q. Liu, F.R. Song, S. Liu. Analytical and Bioanalytical Chemistry, (2023) 415:2677–2692.
- [2] S.Demirci, N. Sahiner. Chemical Engineering Research and Design, (2022) 177:670-681.
- [3] M. Lu, H. Zhang, X. Wang, H. Jiang, G. Hu, F.Q. Yang. Enzyme Microb. Tech. (2021) 146:109776.
- [4] P. Li, X.H. Ma, L. Jin, J. Chen. J. Chromatogr. B, (2021) 1167:122582.
- [5] J. Jiang, Y. Yu, L. Wang, J. Li, J. Ling, Y. Li, G. Duan, Talanta, (2019) 195:127-136.
- [6] A. Zhang, F. Ye, J. Lu, S. Zhao. Food Chem, (2013) 141:1854-1859.