Accepted Manuscript

Title: Selecting optimal columns for clarithromycin impurity analysis according to the quantitative relationship of hydrophobic subtraction model

Author: Xia Zhang Changqin Hu

Please cite this article as: Xia Zhang, Changqin Hu, Selecting optimal columns for clarithromycin impurity analysis according to the quantitative relationship of hydrophobic subtraction model, Journal of Pharmaceutical and Biomedical Analysis http://dx.doi.org/10.1016/j.jpba.2016.10.026

Selecting optimal columns for clarithromycin impurity analysis according to the quantitative relationship of hydrophobic subtraction model

Xia Zhang [a,b], Changqin Hu [b, *]

[a] *Institute of Medicinal Biotechnology, Peking Union Medical College and Chinese Academy of Medical Sciences, Beijing 100050, China*

[b] *National Institutes for Food and Drug Control, Beijing 100050, China*

* Corresponding author: Changqin Hu; E-mail: hucq@nifdc.org.cn (C.Q. Hu); Tel.: +86 010 67095308; Fax: +86 010 65115148.

Graphical Abstract

	Column	H	S	A	B	C(2.8)	C(7.0)	C(4.4)	Type	USP Designation	log $\alpha_{D/C}$	log $\alpha_{E/N}$	log $\alpha_{H/K}$
173	YMC Pack Pro C18 RS	1.114	0.057	-0.061	-0.056	-0.176	-0.224	-0.194	B	L1	0.028	0.011	0.031
218	J'Sphere H80	1.132	0.059	-0.023	-0.068	-0.242	-0.161	-0.211	B	L1	0.030	0.012	0.029
224	Zorbax Extend C18	1.098	0.050	0.012	-0.041	0.030	0.016	0.025	B	L1	0.027	0.011	0.016
249	Wakosil II 5 C18 AR	0.998	0.075	-0.055	-0.034	0.070	0.010	0.047	B	L1	0.027	0.011	0.023
253	Hitachi LaChrom C18-PM	1.127	0.069	-0.019	-0.068	-0.267	-0.144	-0.220	B	L1	0.031	0.013	0.032
257	Ascentis C18	1.077	0.058	0.030	-0.042	-0.088	-0.084	-0.086	B	L1	0.028	0.011	0.025
258	Hypersil Betamax Neutral	1.098	0.036	0.067	-0.031	-0.038	0.012	-0.019	B	L1	0.025	0.010	0.017
259	Symmetry C18	1.052	0.063	0.018	-0.021	-0.302	0.123	-0.140	B	L1	0.026	0.010	0.037
262	Allure C18	1.131	0.052	0.046	-0.049	-0.037	0.020	-0.015	B	L1	0.029	0.012	0.017
280	Vision C18 HL	0.992	0.056	0.057	-0.013	0.133	0.143	0.137	B	L1	0.025	0.010	0.016
587	Cogent UDC Cholesterol	0.625	0.227	0.528	0.069	0.745	1.212	0.923	other	/	0.045	0.026	0.021
590													
591											Shreshold		
592											log $\alpha_{D/C}$	log $\alpha_{E/N}$	log $\alpha_{H/K}$
593											0.015	0.010	0.015