

Supporting Information
for
**Binding mode and free energy prediction of fisetin/
 β -cyclodextrin inclusion complexes**

Bodee Nutho¹, Wasinee Khuntawee², Chompoonut Rungnim³, Piamsook Pongsawadi¹, Peter Wolschann^{4,5}, Alfred Karpfen⁵, Nawee Kungwan⁶, Thanyada Rungrotmongkol^{*,§,1}

Address: ¹Department of Biochemistry, Faculty of Science, Chulalongkorn University, Bangkok 10330, Thailand, ²Nanoscience and Technology Program, Graduate School, Chulalongkorn University, Bangkok, 10330, Thailand, ³National Nanotechnology Center (NANOTEC), National Science and Technology Development Agency (NSTDA), 111 Thailand Science Park, Thanon Phahonyothin Tambon Khlong Nueng, Amphoe Khlong Luang, Pathum Thani 12120, Thailand, ⁴Department of Pharmaceutical Technology and Biopharmaceutics, University of Vienna, Vienna 1090, Austria, ⁵Institute of Theoretical Chemistry, University of Vienna, Vienna 1090, Austria and ⁶Department of Chemistry, Faculty of Science, Chiang Mai University, Chiang Mai 50200, Thailand

Email: Thanyada Rungrotmongkol* t.rungrotmongkol@gmail.com

*Corresponding author.

[§]Tel: +66 2 2185426; Fax: + 66 22 185418.

**Decomposition of the free energy (kcal/mol) into the contributions
from A- and B-rings of fisetin**

Table S1: Decomposition of the free energy (kcal/mol) into the contributions from A- and B-rings of fisetin for the nine systems of the fisetin/ β CD complexes

	$\Delta G_{MM-PBSA}$			$\Delta G_{MM-GBSA}$		
	Total	A-ring	B-ring	Total	A-ring	B-ring
Complex I						
I-1	-27.9 \pm 3.8	-16.0 \pm 4.1	-11.9 \pm 4.4	-23.8 \pm 3.1	-14.4 \pm 3.7	-9.4 \pm 4.3
I-2	-28.2 \pm 3.8	-16.4 \pm 3.8	-11.8 \pm 3.8	-23.9 \pm 2.8	-14.7 \pm 3.5	-9.2 \pm 4.2
I-3	-28.2 \pm 3.7	-15.8 \pm 4.1	-12.4 \pm 4.5	-24.1 \pm 2.5	-14.3 \pm 3.4	-9.8 \pm 4.2
Complex II						
II-1	-29.9 \pm 4.3	-15.6 \pm 3.5	-14.3 \pm 2.8	-26.1 \pm 2.9	-15.0 \pm 2.6	-11.1 \pm 2.3
II-2	-30.1 \pm 3.1	-16.5 \pm 3.0	-13.6 \pm 3.0	-26.4 \pm 2.3	-15.6 \pm 2.4	-10.8 \pm 2.4
II-3	-30.5 \pm 3.1	-16.4 \pm 3.0	-14.1 \pm 2.8	-26.2 \pm 2.4	-15.3 \pm 2.4	-10.9 \pm 2.3
Complex III						
III-1	-29.2 \pm 3.7	-16.1 \pm 3.5	-13.1 \pm 3.3	-25.5 \pm 2.5	-15.0 \pm 2.4	-10.5 \pm 2.3
III-2	-29.5 \pm 3.7	-15.7 \pm 3.6	-13.8 \pm 3.6	-25.4 \pm 2.3	-14.8 \pm 2.4	-10.6 \pm 2.4
III-3	-29.3 \pm 3.9	-15.2 \pm 3.5	-14.1 \pm 3.1	-25.5 \pm 2.9	-14.7 \pm 2.4	-10.8 \pm 2.0