Electronic Supplementary Material (ESI) for Organic & Biomolecular Chemistry

Protein Engineering of Oxidosqualene-Lanosterol Cyclase into Triterpene Monocyclase

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Table S1. The product profiles and ratio of *Sce*ERG7 mutants.[a, b]

*Sce*ERG7^{mutants}	2	3	4	5	6	7	8
ERG7^{W587Y}	**89.7**	-	-	**6.2**	-	**4.1**	-
ERG7^{W587F}	**78.8**	-	**0.8**	**7.6**	**2.3**	**10.5**	-
[a] Neither cell viability nor product was characterized for rest of the ERG7^{W587X} mutants							
ERG7^{C457G}	**25.4**	**74.6**	-	-	-	-	-
ERG7^{C457A}	**93.5**	-	**1.9**	-	-	**4.6**	-
ERG7^{C457V}	**97.5**	-	-	-	-	**2.5**	-
ERG7^{C457L}	**93.6**	-	**2.2**	-	-	**4.2**	-
ERG7^{C457I}	**100**	-	-	-	-	-	-
ERG7^{C457P}	**100**	-	-	-	-	-	-
ERG7^{C457M}	**100**	-	-	-	-	-	-
ERG7^{C457N}	**100**	-	-	-	-	-	-
ERG7^{C457Q}	**100**	-	-	-	-	-	-
ERG7^{C457S}	**100**	-	-	-	-	-	-
ERG7^{C457T}	**96.0**	-	**4.0**	-	-	-	-
ERG7^{C457C}	**100**	-	-	-	-	-	-
[a] Neither cell viability nor product was characterized for rest of the ERG7^{C457X} mutants							
ERG7^{T509G}	**85.2**	**10.6**	-	-	-	-	**4.2**
ERG7^{T509A}	**88.0**	-	-	-	-	**12.0**	-
ERG7^{T509V}	**86.7**	-	**13.3**	-	-	-	-
ERG7^{T509L}	**78.1**	-	-	-	-	**21.9**	-
ERG7^{T509N}	**89.6**	-	**10.4**	-	-	-	-
ERG7^{T509S}	**100**	-	-	-	-	-	-
[a] Neither cell viability nor product was characterized for rest of the ERG7^{T509X} mutants							

ERG7^{Y510G}	**27.0**	**15.0**	**17.0**	**-**	**-**	**41.0**	**-**
ERG7^{Y510A}	**39.0**	**27.0**	**-**	**-**	**-**	**34.0**	**-**
ERG7^{Y510V}	**38.0**	**4.0**	**17.0**	**-**	**-**	**41.0**	**-**
ERG7^{Y510L}	**74.0**	**-**	**26.0**	**-**	**-**	**-**	**-**
ERG7^{Y510I}	**78.0**	**4.0**	**11.0**	**-**	**-**	**7.0**	**-**
ERG7^{Y510M}	**43.0**	**1.0**	**15.0**	**-**	**-**	**41.0**	**-**
ERG7^{Y510N}	**9.0**	**5.0**	**9.0**	**-**	**-**	**77.0**	**-**
ERG7^{Y510SQ}	**14.0**	**5.0**	**26.0**	**-**	**-**	**55.0**	**-**
ERG7^{Y510S}	**40.0**	**-**	**4.0**	**-**	**-**	**56.0**	**-**
ERG7^{Y510C}	**33.0**	**-**	**67.0**	**-**	**-**	**-**	**-**
ERG7^{Y510D}	**40.0**	**9.0**	**11.0**	**-**	**-**	**40.0**	**-**
ERG7^{Y510E}	**18.0**	**6.0**	**27.0**	**-**	**-**	**49.0**	**-**
ERG7^{Y510H}	**5.0**	**45.0**	**24.0**	**-**	**-**	**26.0**	**-**
ERG7^{Y510K}	**-**	**87.0**	**-**	**-**	**-**	**-**	**13.0**
ERG7^{Y510W}	**-**	**94.0**	**-**	**-**	**-**	**-**	**6.0**
ERG7^{Y510F}	**50.0**	**4.0**	**10.0**	**-**	**-**	**36.0**	**-**
[a] Neither cell viability nor product was characterized for rest of the ERG7^{Y510X} mutants							
ERG7$^{H234W/Y510V}$	**90.0**	**2.0**	**8.0**	**-**	**-**	**-**	**-**
ERG7$^{H234W/Y510W}$	**-**	**100.0**	**-**	**-**	**-**	**-**	**-**

[b] Abbreviate designation of the products:

(**2**): Lanosterol

(**3**): Achilleol A

(**4**): (13α*H*)-isomalabarica-14(26),17,21-trien-3β-ol

(**5**): Protosta-12(13),24-dien-3β-ol

(**6**): Protosta-13(17),24-dien-3β-ol

(**7**): Parkeol

(**8**): Camelliol C