SUPPLEMENTARY INFORMATION

TABLE S1. Example of 1st-order effects calculated from global desirabilities (D) of fraction F2 obtained from each growth experiment (performed in triplicate) by *Penicillium* sp. DRF2.

	FFED						1st-order effect				
#	1	2	3	4	5	*D*	1xD	2xD	3xD	4xD	5xD
1	-1	-1	-1	-1	+1	0.26	-0.26	-0.26	-0.26	-0.26	0.26
2	+1	-1	-1	-1	-1	0.28	0.28	-0.28	-0.28	-0.28	-0.28
3	-1	+1	-1	-1	-1	0.39	-0.39	0.39	-0.39	-0.39	-0.39
4	+1	+1	-1	-1	+1	0.55	0.55	0.55	-0.55	-0.55	0.55
5	-1	-1	+1	-1	-1	0.06	-0.06	-0.06	0.06	-0.06	-0.06
6	+1	-1	+1	-1	+1	0.21	0.21	-0.21	0.21	-0.21	0.21
7	-1	+1	+1	-1	+1	0.66	-0.66	0.66	0.66	-0.66	0.66
8	+1	+1	+1	-1	-1	0.39	0.39	0.39	0.39	-0.39	-0.39

9	-1	-1	-1	+1	-1	0.58		-0.58	-0.58	-0.58	0.58	-0.58
10	+1	-1	-1	+1	+1	0.37		0.37	-0.37	-0.37	0.37	0.37
11	-1	+1	-1	+1	+1	0.61		-0.61	0.61	-0.61	0.61	0.61
12	+1	+1	-1	+1	-1	0.36		0.36	0.36	-0.36	0.36	-0.36
13	-1	-1	+1	+1	+1	0.13		-0.13	-0.13	0.13	0.13	0.13
14	+1	-1	+1	+1	-1	0.36		0.36	-0.36	0.36	0.36	-0.36
15	-1	+1	+1	+1	-1	0.36		-0.36	0.36	0.36	0.36	-0.36
16	+1	+1	+1	+1	+1	0.64		0.64	0.64	0.64	0.64	0.64
						Σy^+		3.16	3.96	2.81	3.41	3.43
						Σy^-		-3.05	-2.25	-3.40	-2.80	-2.78
						$\Sigma y^+ + \Sigma y^-$		0.08	1.68	-0.58	0.61	0.65
						$E_i (\Sigma/8)$		0.01	0.21	-0.07	0.08	0.09
						$P_i (\%)$		0.2	37.6	4.5	4.8	5.4

TABLE S2. Example of 2nd-order effects calculated from global desirabilities (D) of fraction F2 obtained from each growth experiment (performed in triplicate) by *Penicillium* sp. DRF2.

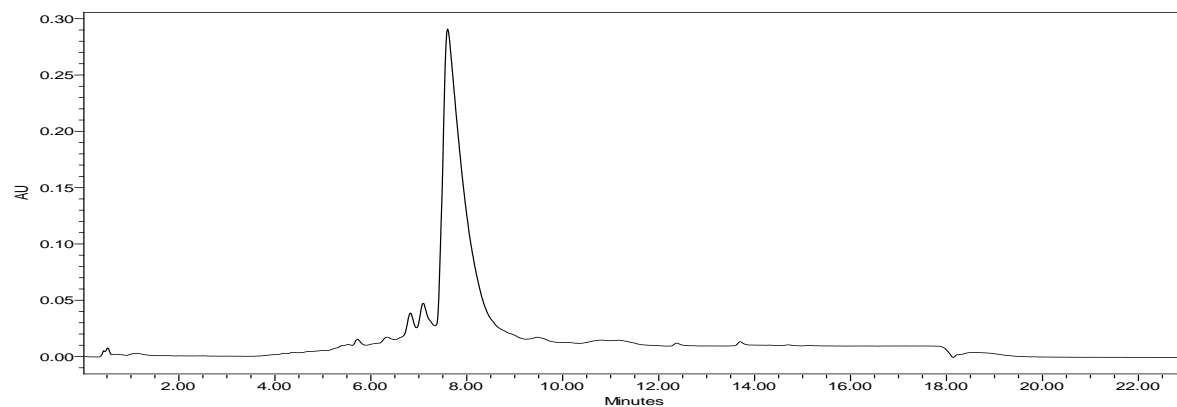| #	*D*		1x2xD	1x3xD	1x4xD	1x5xD	2x3xD	2x4xD	2x5xD	3x4xD	3x5xD	4xD
							2nd-order effect					
1	0.26		0.26	0.26	0.26	-0.26	0.26	0.26	-0.26	0.26	-0.26	-0.26
2	0.28		-0.28	-0.28	-0.28	-0.28	0.28	0.28	0.28	0.28	0.28	0.28
3	0.39		-0.39	0.39	0.39	0.39	-0.39	-0.39	-0.39	0.39	0.39	0.39
4	0.55		0.55	-0.55	-0.55	0.55	-0.55	-0.55	0.55	0.55	-0.55	-0.55
5	0.06		0.06	-0.06	0.06	0.06	-0.06	0.06	0.06	-0.06	-0.06	0.06
6	0.21		-0.21	0.21	-0.21	0.21	-0.21	0.21	-0.21	-0.21	0.21	-0.21
7	0.66		-0.66	-0.66	0.66	-0.66	0.66	-0.66	0.66	-0.66	0.66	-0.66
8	0.39		0.39	0.39	-0.39	-0.39	0.39	-0.39	-0.39	-0.39	-0.39	0.39
9	0.58		0.58	0.58	-0.58	0.58	0.58	-0.58	0.58	-0.58	0.58	-0.58
10	0.37		-0.37	-0.37	0.37	0.37	0.37	-0.37	-0.37	-0.37	-0.37	0.37
11	0.61		-0.61	0.61	-0.61	-0.61	-0.61	0.61	0.61	-0.61	-0.61	0.61
12	0.36		0.36	-0.36	0.36	-0.36	-0.36	0.36	-0.36	-0.36	0.36	-0.36
13	0.13		0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	0.13	0.13	0.13
14	0.36		-0.36	0.36	0.36	-0.36	-0.36	-0.36	0.36	0.36	-0.36	-0.36
15	0.36		-0.36	-0.36	-0.36	0.36	0.36	0.36	-0.36	0.36	-0.36	-0.36
16	0.64		0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
		Σy^+	**2.97**	**3.44**	**3.10**	**3.16**	**3.54**	**2.78**	**3.74**	**2.97**	**3.25**	**2.87**
		Σy^-	**-3.24**	**-2.77**	**-3.11**	**-3.05**	**-2.67**	**-3.43**	**-2.47**	**-3.24**	**-2.96**	**-3.34**
		$\Sigma y^+ + \Sigma y^-$	**-0.27**	**0.67**	**-0.01**	**0.11**	**0.87**	**-0.65**	**1.27**	**-0.27**	**0.29**	**-0.47**
		$E_i (\Sigma/8)$	**-0.03**	**0.08**	**0.00**	**0.01**	**0.11**	**-0.08**	**0.16**	**-0.03**	**0.03**	**-0.06**
		$P_i (\%)$	**0.9**	**5.8**	**0.0**	**0.2**	**9.7**	**5.4**	**20.7**	**0.9**	**1.1**	**2.8**

FIGURE S1. HPLC-UV analysis of fraction F2 produced by *Penicillium* sp. DRF2 under conditions of experiment #7.
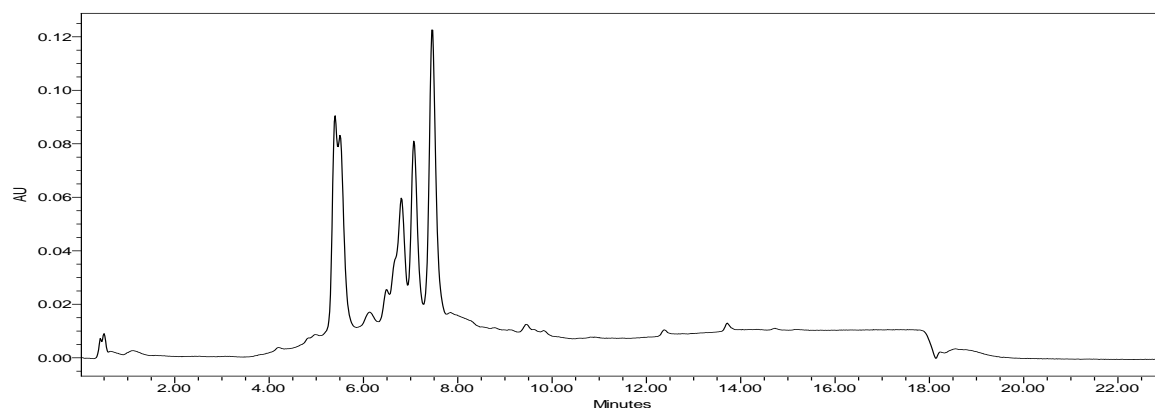

FIGURE S2. HPLC-UV analysis of fraction F2 produced by *Penicillium* sp. DRF2 under conditions of experiment #11.
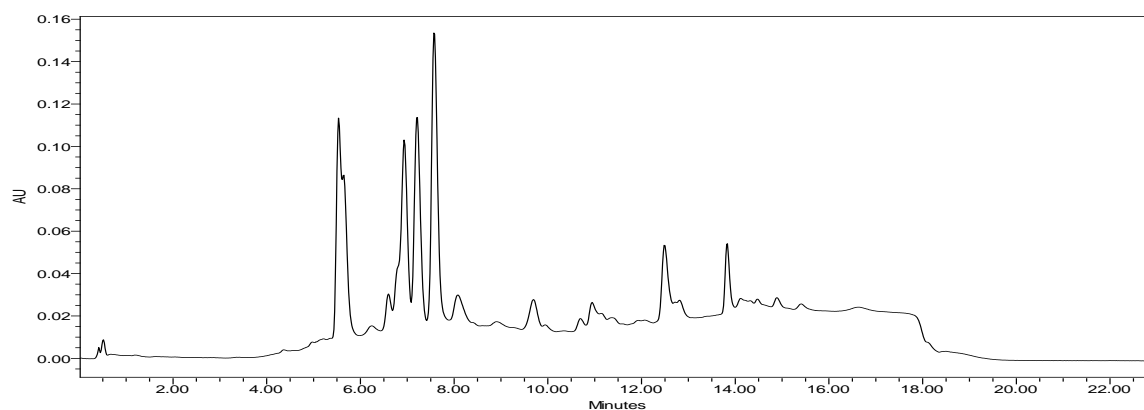

FIGURE S3. HPLC-UV analysis of fraction F2 produced by *Penicillium* sp. DRF2 under conditions of experiment #17.
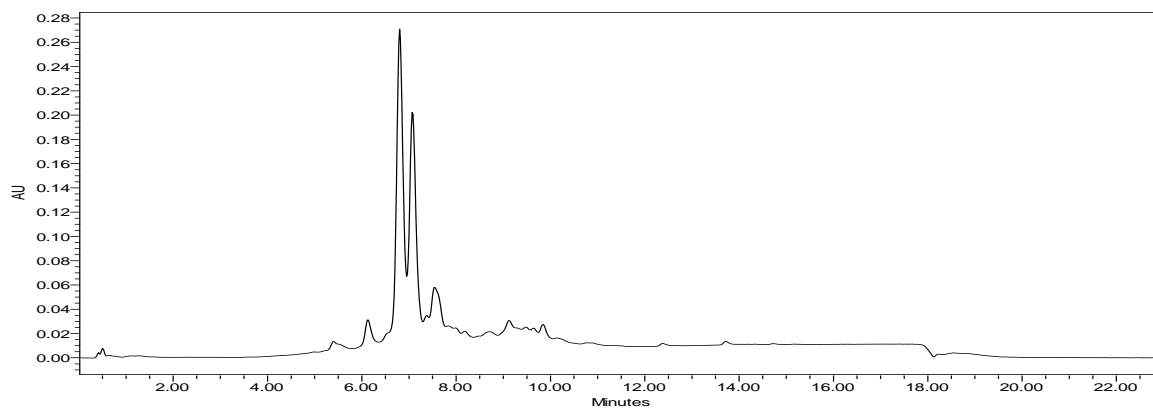
FIGURE S4. HPLC-UV analysis of fraction F3 produced by *Penicillium* sp. DRF2 under conditions of experiment #11.
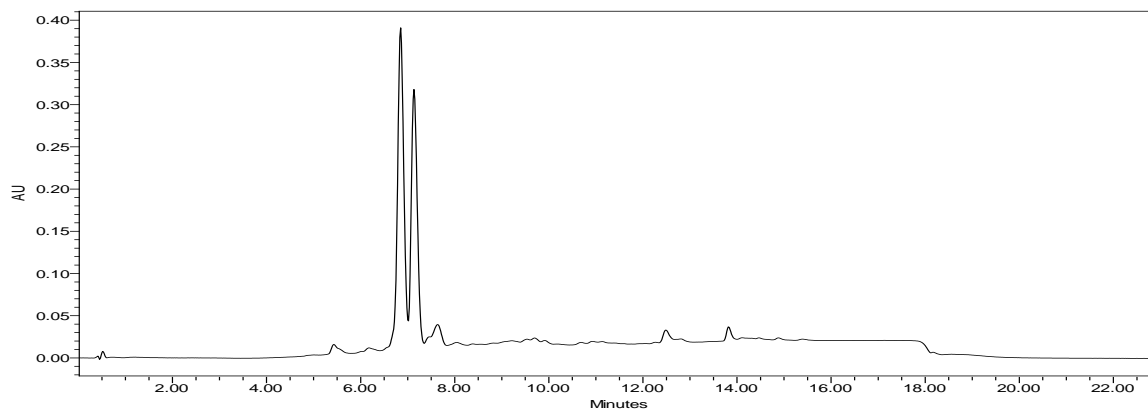

FIGURE S5. HPLC-UV analysis of fraction F3 produced by *Penicillium* sp. DRF2 under conditions of experiment #17.