

Supplementary Table S1A: Central composite rotational design matrix for evaluation of co-factors in DepA system

Run	Levels of variable		
	X <sub>1</sub> : DepA ( $\mu\text{g}\cdot\text{mL}^{-1}$ )	X <sub>2</sub> : PQQ ( $\mu\text{M}$ )	X <sub>3</sub> : PMS ( $\mu\text{M}$ )
1	9.0	60	24
2	13.5	90	36
3	9.0	60	44.2
4	9.0	60	24
5	9.0	60	24
6	4.5	30	12
7	4.5	90	12
8	4.5	90	36
9	9.0	110.5	24
10	13.5	90	12
11	13.5	30	36
12	9.0	60	24
13	4.5	30	36
14	9.0	9.5	24
15	13.5	30	12
16	16.6	60	24
17	9.0	60	24
18	1.4	60	24
19	9.0	60	3.8
20	9.0	60	24

Supplementary Table S1B: Experimental ranges and levels of independent variables for evaluation of co-factors in DepA system

Variables	Symbol	Coded levels				
		-1.682	-1	0	+1	+1.682
DepA ( $\mu\text{g}\cdot\text{mL}^{-1}$ )	X <sub>1</sub>	1.4	4.5	9.0	13.5	16.6
PQQ ( $\mu\text{M}$ )	X <sub>2</sub>	9.5	30	60	90	110.5
PMS ( $\mu\text{M}$ )	X <sub>3</sub>	3.8	12	24	36	44.2

Supplementary Table S1C: ANOVA for quadratic model

Source	Sum of Squares	df	Mean Square	F-value	p-value
<b>Model</b>	<b>85.74</b>	<b>9</b>	<b>9.53</b>	<b>35.88</b>	<b>&lt;0.0001</b>
X <sub>1</sub> -DepA	43.13	1	43.13	162.40	<0.0001
X <sub>2</sub> -PQQ	21.27	1	21.27	80.08	<0.0001
X <sub>3</sub> -PMS	12.23	1	12.23	46.04	<0.0001
X <sub>1</sub> X <sub>2</sub>	0.0490	1	0.0490	0.1844	0.6767
X <sub>1</sub> X <sub>3</sub>	0.3248	1	0.3248	1.22	0.2946
X <sub>2</sub> X <sub>3</sub>	0.0219	1	0.0219	0.0824	0.7799
X <sub>1</sub> <sup>2</sup>	3.03	1	3.03	11.40	0.0070
X <sub>2</sub> <sup>2</sup>	3.94	1	3.94	14.82	0.0032
X <sub>3</sub> <sup>2</sup>	3.49	1	3.49	13.15	0.0046