

## One-pot green synthesis of eumelanin: Process optimization and its characterization.

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### Supplementary data

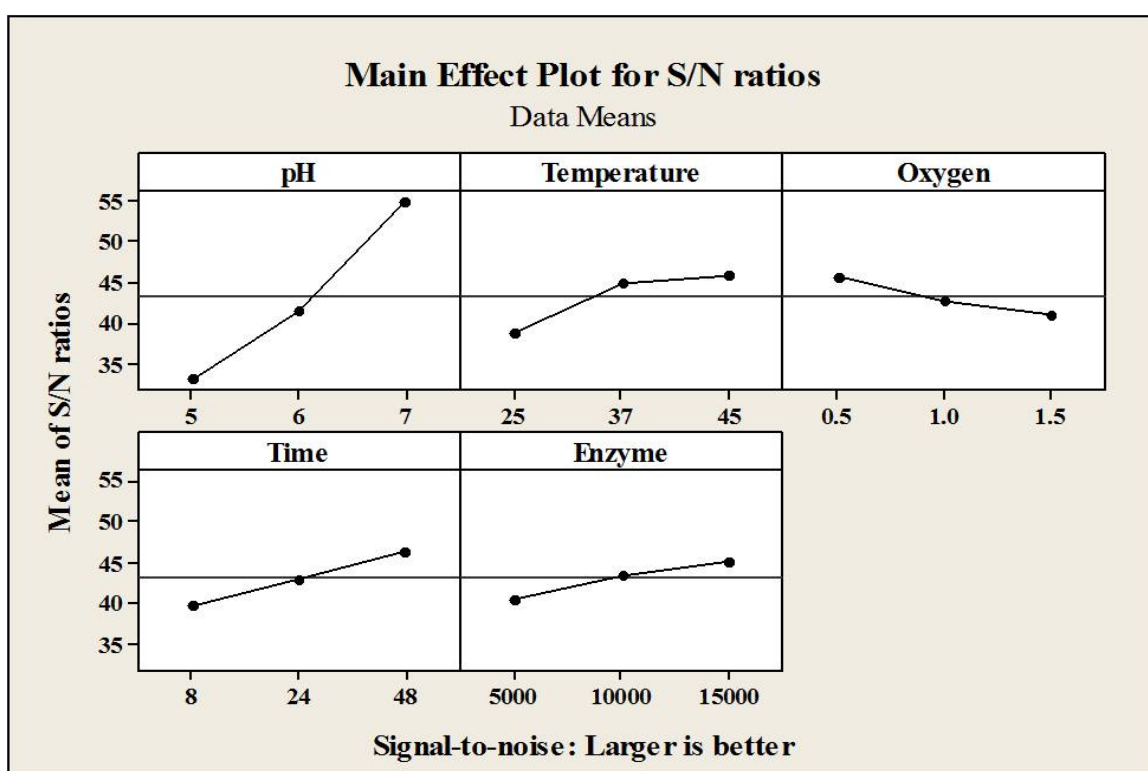


Fig. S1 The main effect of selected factors and their assigned levels on synthesis of melanin. X-axis represents the different levels of selected parameters and Y-axis represents the mean S/N ratio. Optimum conditions are indicated by the peak values of S/N ratio of each factor.

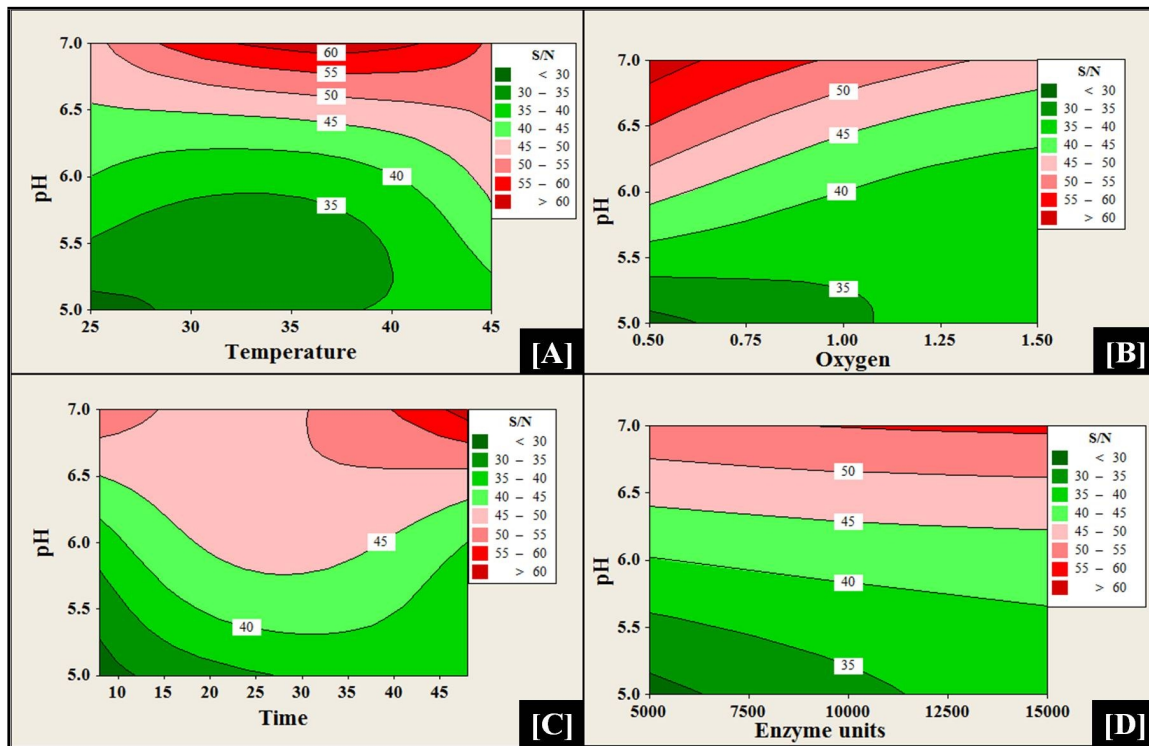


Fig. S2 Contour plot of S/N vs [A] pH, temperature [B] pH, oxygen [C] pH, time [D] pH, enzyme units.

Table S1 One way ANOVA of S/N versus each factor at 95% confidence level

One-way ANOVA: S/N versus pH

Source	DF	SS	MS	F	P
pH	2	2177.8	1088.9	32.73	0.000
Error	24	798.4	33.3		
Total	26	2976.2			

One-way ANOVA: S/N versus Temperature

Source	DF	SS	MS	F	P
Temperature	2	264	132	1.17	0.328
Error	24	2712	113		
Total	26	2976			

One-way ANOVA: S/N versus Oxygen level

Source	DF	SS	MS	F	P
Oxygen	2	105	52	0.44	0.651
Error	24	2872	120		
Total	26	2976			

One-way ANOVA: S/N versus Time

Source	DF	SS	MS	F	P
Time	2	195	98	0.84	0.443
Error	24	2781	116		
Total	26	2976			

One-way ANOVA: S/N versus Enzyme units

Source	DF	SS	MS	F	P
Enzyme	2	106	53	0.44	0.648
Error	24	2870	120		
Total	26	2976			

Table S2 Physicochemical characterization of biosynthesized melanin

Sr. no.	Test	Result
[i]	Color	Black
[ii]	Solubility in water	Insoluble
[iii]	Solubility in organic solvents:  Acetic acid, Acetone, Benzene,  Chloroform, DMSO, Ethanol,  Ethyl acetate, Methanol,  n-hexane, PBS, Triton X	Insoluble
[iv]	Solubility in Soluene-350:water mixture (9:1) [Boiling water bath for 45 min.]	Completely solubilized
[v]	Precipitation with 6 N HCl	Precipitates readily