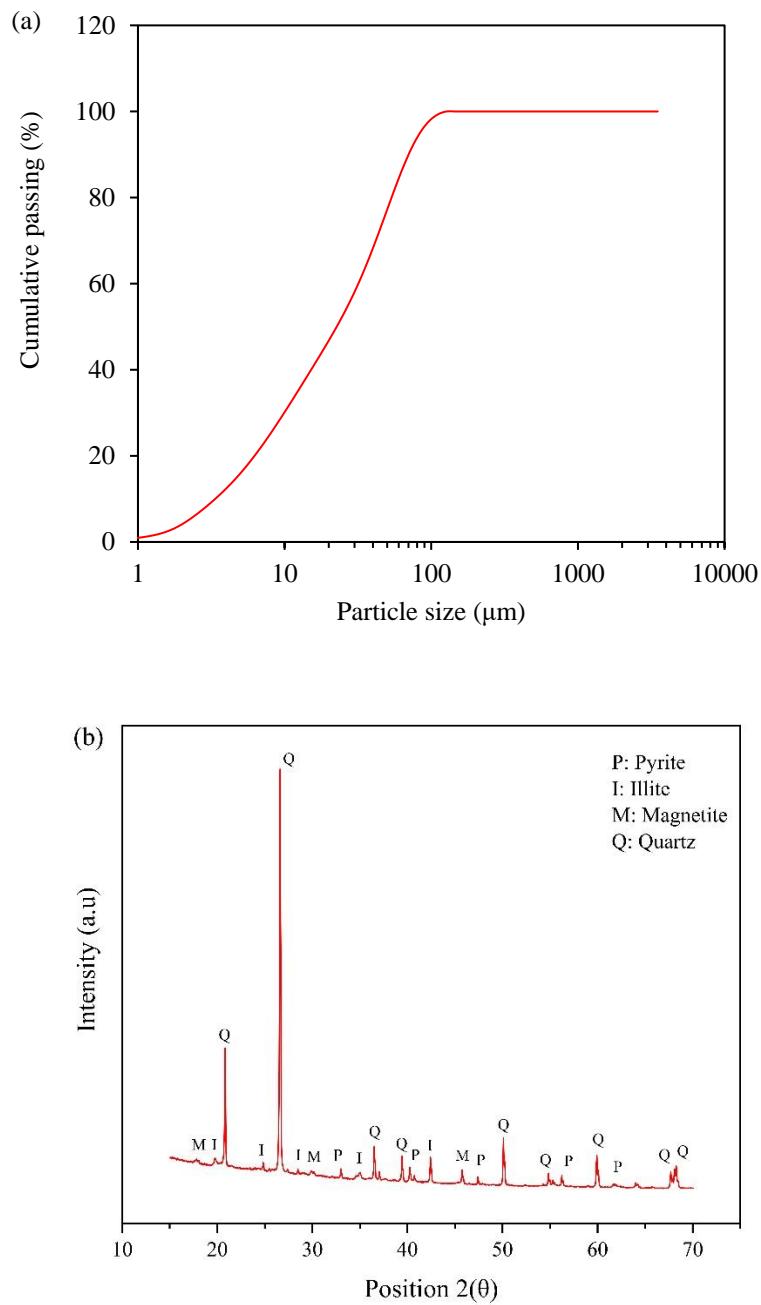


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**Figure S1.** (a) particle size distribution and (b) XRD pattern of the gold-bearing sulfidic ore used in bio-oxidation experiments.

**Table S1.** D-optimal RSM test matrix for parameter optimization for bio-oxidation assisted by *P. chrysosporium*.

Run	A: Glucose (g/L)	B: Malt extract (g/L)	C: Yeast extract (g/L)	D: MgSO <sub>4</sub> ·7H <sub>2</sub> O (g/L)
1	20	0	0.31	0.5
2	14.82	3.5	1.58	0.5
3	13.49	2.19	1.52	0.17
4	16.11	1.36	0	0.3
5	20	3.5	0	0.5
6	20	0	0	0
7	15.15	0	2.5	0
8	10	3.5	0	0.41
9	10	3.5	0	0.41
10	10	0	0	0.5
11	14.82	3.5	1.58	0.5
12	10	0	1.59	0.24
13	10	1.71	2.5	0.5
14	10	0.67	0	0
15	20	1.81	1.6	0
16	17.6	0	1.42	0.25
17	18.55	3.17	0.94	0.26
18	10	3.5	2.5	0
19	18.55	3.5	0	0
20	20	3.5	2.5	0.26
21	20	0	2.5	0.5
22	10.16	3.5	0.43	0
23	10	0	0	0.5
24	20	1.81	1.6	0
25	15.15	0	2.5	0

**Table S2.** ANOVA results for the fitted multiple regression model.

<b>Standard deviation</b>	<b>3.49</b>	<b>R<sup>2</sup></b>	<b>0.9182</b>
Mean	13.12	Adjusted R <sup>2</sup>	0.8597
CV%	26.59	Predicted R <sup>2</sup>	0.7627
Press	493.87	Signal to noise ratio	12.855