

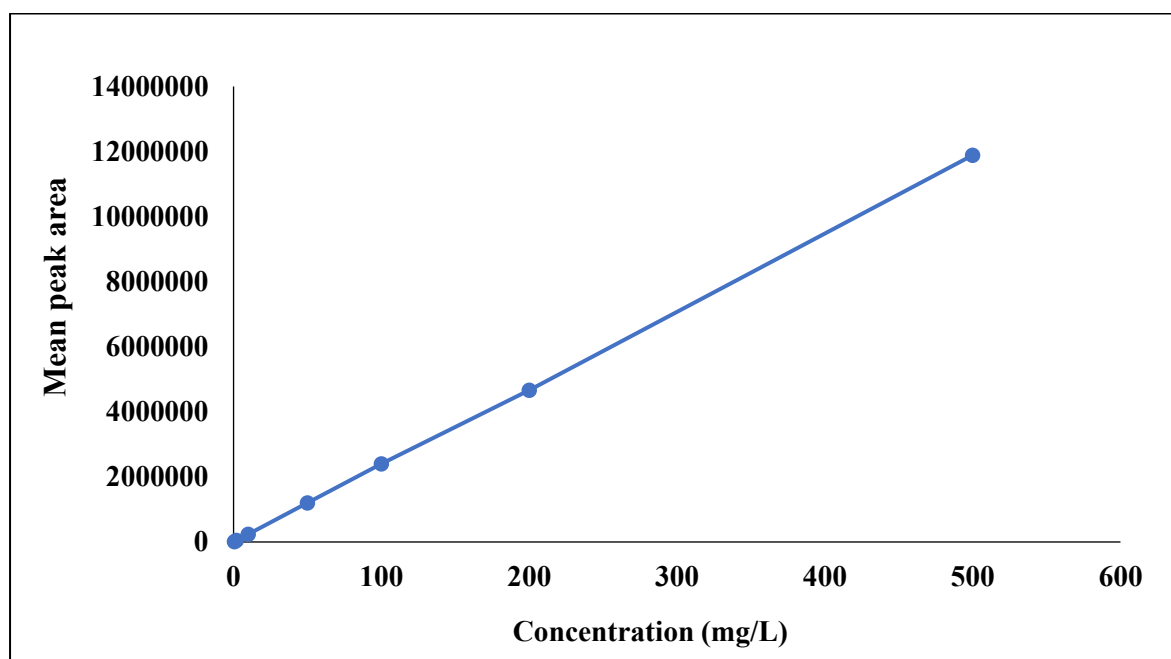
SUPPLEMENTARY DATA

Standard curve for benzyl butyl phthalate (BBP)

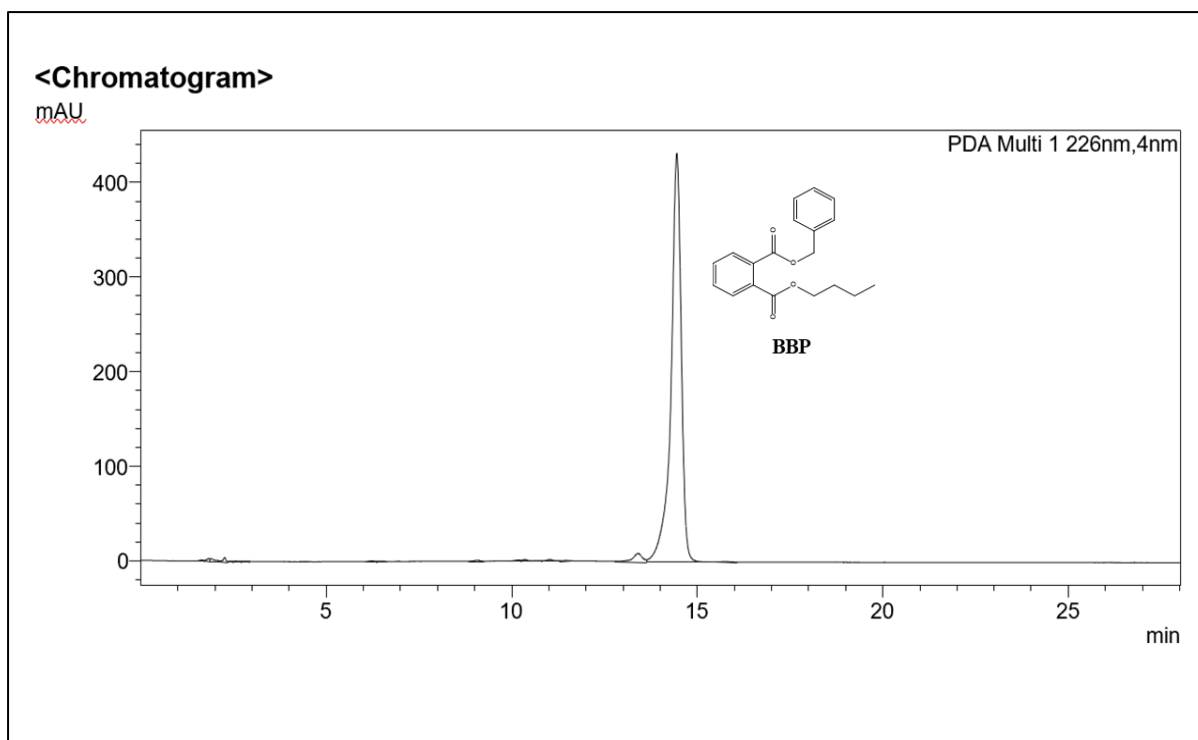
A standard curve was prepared by using different concentrations (0.5, 2, 10, 50, 100, 200 and 500 ppm) of BBP. The calibration curve, mean peak area and concentration of BBP, is given in Supplementary Table S1 and Supplementary Figure S1. The scanned chromatogram of the BBP standard is given in Supplementary Figure S2. The experiment was performed in triplicate.

Supplementary Table S1. Concentration and mean peak area of BBP

S. No.	Concentration (mg/L)	Mean Peak Area
1	0.5	15534.8
2	2	52274.2
3	10	241371
4	50	1199893
5	100	2400139
6	200	4661412
7	500	11885844

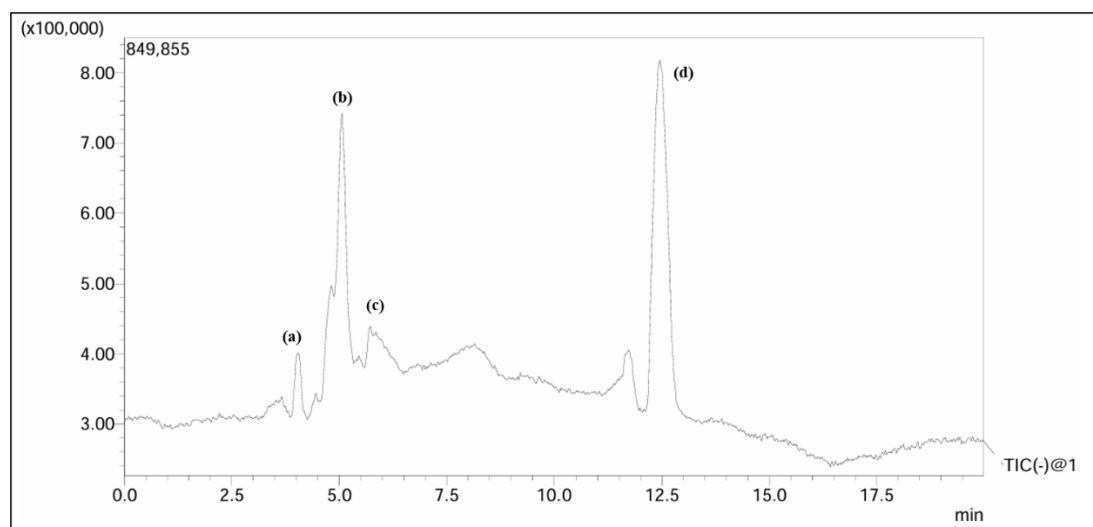


Supplementary Figure S1. Calibration curve of BBP detected using UHPLC



Supplementary Figure S2. UHPLC chromatogram of BBP

LC-MS chromatogram of BBP Metabolites



Supplementary Figure S3. LC-MS chromatogram peaks of metabolite standards (a) protocatechuic acid (PCA), (b) mono butyl phthalate (MBP), (c) mono benzyl phthalate (MBzP) and (d) phthalic acid (PA)

Statistical Analysis

The statistical analysis of various parameters like temperature, pH, salinity, inoculum size is given in Supplementary Table S2 to Supplementary Table S5.

Supplementary Table S2. Effect of temperature (°C) on BBP degradation rate by *Enterococcus faecalis* RBRJ026 and *Klebsiella pneumoniae* RBRJ024.

Temperature (°C)	Degradation rate (%) <i>Enterococcus faecalis</i> RBRJ026	Degradation rate (%) <i>Klebsiella pneumoniae</i> RBRJ024
25	63.24±2.87 ^a	51.46±2.59 ^b
27	65.52±2.77 ^a	54.54±2.94 ^b
30	75.01±2.60 ^b	72.87±2.64 ^d
33	90.98±2.76 ^c	81.51±1.03 ^e
35	85.32±2.70 ^c	89.86±2.73 ^f
37	76.20±2.51 ^b	79.95±2.81 ^{de}
40	64.86±1.92 ^a	64.70±2.93 ^c
45	59.22±1.83 ^a	40.03±1.94 ^a
F ratio (7,16)	59.99 ^{***}	137.85 ^{***}
HSD	6.91	6.93

Data represented is the Mean of % degradation ± SD of the triplicates. Mean followed by same letters are not significantly different while means followed by different letters are significantly different at $P \leq 0.05^*$, 0.01^{**} and 0.001^{***} using HSD multiple comparison test. HSD: Honestly Significant Difference

Supplementary Table S3. Effect of pH on BBP degradation rate by *Enterococcus faecalis* RBRJ026 and *Klebsiella pneumoniae* RBRJ024.

pH	Degradation rate (%) <i>Enterococcus faecalis</i> RBRJ026	Degradation rate (%) <i>Klebsiella pneumoniae</i> RBRJ024
4	72.70±2.40 ^d	47.00±2.86 ^a
5	81.74±1.18 ^e	60.07±1.71 ^b
6	68.34±1.79 ^{cd}	71.89±2.69 ^c
7	64.78±2.78 ^c	85.73±2.91 ^d
8	54.09±2.90 ^b	77.78±2.45 ^c
9	46.75±2.47 ^a	74.10±1.12 ^c
F ratio (5,12)	88.38 ^{***}	100.31 ^{***}
HSD	6.07	6.21

Data represented is the Mean of % degradation ± SD of the triplicates. Mean followed by same letters are not significantly different while means followed by different letters are significantly different at $P \leq 0.05^*$, 0.01^{**} and 0.001^{***} using HSD multiple comparison test. HSD: Honestly Significant Difference

Supplementary Table S4. Effect of salinity (% w/v) on BBP degradation rate by *Enterococcus faecalis* RBRJ026 and *Klebsiella pneumoniae* RBRJ024.

Salinity (% w/v)	Degradation rate (%) <i>Enterococcus faecalis</i> RBRJ026	Degradation rate (%) <i>Klebsiella pneumoniae</i> RBRJ024
1	91.40±1.76 ^e	63.89±1.04 ^{cd}
2	91.16±2.16 ^e	62.51±3.47 ^{de}
3	92.71±2.17 ^e	72.27±2.65 ^e
4	93.03±1.68 ^e	80.65±1.43 ^f
5	90.57±1.36 ^e	85.32±2.92 ^f
6	88.72±1.18 ^e	61.48±1.51 ^{cd}
7	80.55±2.64 ^d	59.44±2.00 ^c
8	68.04±1.29 ^c	25.03±2.89 ^b
9	60.37±1.35 ^b	19.61±1.79 ^b
10	40.21±2.09 ^a	9.17±3.02 ^a
F ratio (9,20)	286.67 ^{***}	516.09 ^{***}
HSD	5.31	5.71

Data represented is the Mean of % degradation ± SD of the triplicates. Mean followed by same letters are not significantly different while means followed by different letters are significantly different at $P \leq 0.05^*$, 0.01^{**} and 0.001^{***} using HSD multiple comparison test. HSD: Honestly Significant Difference

Supplementary Table S5. Effect of inoculum size (% v/v) on BBP degradation rate by *Enterococcus faecalis* RBRJ026 and *Klebsiella pneumoniae* RBRJ024.

Inoculum size (% v/v)	Degradation rate (%) <i>Enterococcus faecalis</i> RBRJ026	Degradation rate (%) <i>Klebsiella pneumoniae</i> RBRJ024
0.1	65.01±2.3 ^a	59.88±2.53 ^a
0.5	68.51±1.29 ^a	60.48±2.32 ^a
1	75.85±1.98 ^b	64.19±2.71 ^a
2	84.57±1.27 ^c	91.89±1.23 ^{bc}
3	87.08±1.15 ^{cd}	91.77±1.60 ^{bc}
4	90.32±1.01 ^{de}	93.01±1.98 ^c
5	93.41±1.64 ^e	94.60±1.18 ^c
6	91.33±1.36 ^{de}	91.88±1.67 ^{bc}
7	91.89±1.24 ^{de}	92.90±1.11 ^{bc}
8	90.63±2.57 ^{de}	92.03±1.39 ^{bc}
9	88.7±1.34 ^{cde}	89.19±2.09 ^{bc}
10	87.11±2.41 ^{cd}	87.34±2.31 ^b
F ratio (11,24)	92.01 ^{***}	153.82 ^{***}
HSD	4.95	5.56

Data represented is the Mean of % degradation ± SD of the triplicates. Mean followed by same letters are not significantly different while means followed by different letters are significantly different at $P \leq 0.05^*$, 0.01^{**} and 0.001^{***} using HSD multiple comparison test. HSD: Honestly Significant Difference

Supplementary Table S6. Data on abiotic loss of BBP of temperature, pH, and salinity in terms of degradation rate (%).

Temperature (°C)	Degradation rate (%) Control	pH	Degradation rate (%) Control	Salinity (% w/v)	Degradation rate (%) Control	Inoculum size (% v/v) Degradation rate Control
25	0.92±0.47	4	1.11±0.44	1	0.80±0.14	0.92±0.60
27	0.96±0.70	5	0.87±0.16	2	0.91±0.34	
30	0.89±0.61	6	0.90±0.24	3	1.33±0.24	
33	0.63±0.14	7	0.34±0.36	4	1.04±0.54	
35	0.80±0.14	8	0.76±0.40	5	1.18±0.40	
37	0.91±0.25	9	0.90±0.24	6	0.90±0.36	
40	1.12±0.21			7	0.76±0.17	
45	2.24±0.25			8	1.17±0.34	
				9	1.73±0.24	
				10	1.87±0.12	

Control is the BBP inoculated media without bacteria

Supplementary Table S7. Data on abiotic loss of BBP of kinetic studies in terms of degradation rate (%).

Time (h)	Degradation rate (%) Control (100 mg L ⁻¹)	Degradation rate (%) Control (200 mg L ⁻¹)	Degradation rate (%) Control (300 mg L ⁻¹)	Degradation rate (%) Control (400 mg L ⁻¹)	Degradation rate (%) Control (500 mg L ⁻¹)
0	0.77±0.17	0.52±0.17	0.48±0.27	0.68±0.27	0.30±0.21
12	0.94±0.22	0.72±0.11	0.49±0.11	0.68±0.10	0.33±0.14
24	1.18±0.40	0.73±0.21	0.53±0.09	0.77±0.05	0.48±0.07
36	1.35±0.57	0.81±0.26	0.65±0.11	0.79±0.01	0.51±0.11
48	1.43±0.17	0.84±0.29	0.80±0.11	0.83±0.09	0.56±0.09
60	1.62±0.28	0.85±0.09	0.85±0.05	0.86±0.02	0.78±0.12
72	1.88±0.10	0.95±0.21	0.88±0.07	0.92±0.09	0.87±0.44

Control is the BBP inoculated media without bacteria