An unprecedented strategy for the anoxic biodegradation of the xenobiotic phthalate

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Supplementary Material

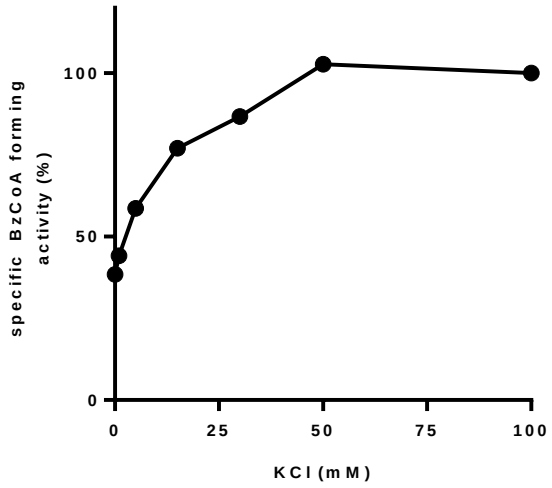

Figure S1 Effect of supplemental KCl on phthalate and succinyl-CoA dependent benzoyl-CoA forming activity. Specific activity in the presence of 50 mM potassium chloride refers to 100%.

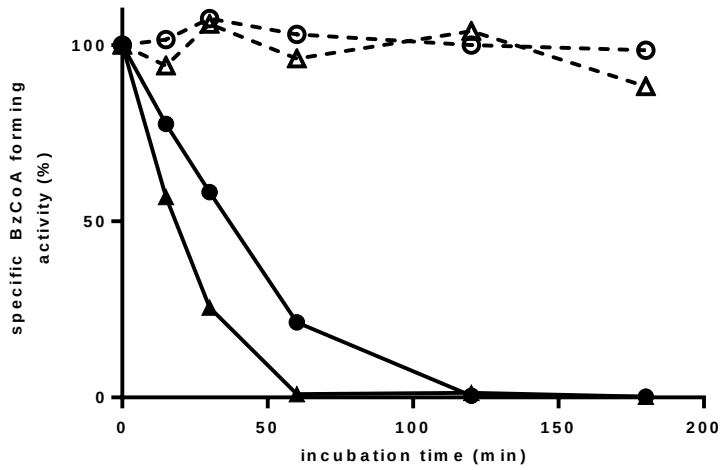

Figure S2 Effect of air exposure on phthalate- and succinyl-CoA dependent benzoyl-CoA forming activity in the presence/absence of supplemental KCl. ● Aerobic incubation in the presence of 50 mM KCl, ○ anaerobic incubation in the presence of 50 mM KCl, ▲ aerobic incubation without supplemental KCl, △ anaerobic incubation without supplemental KCl. Specific activity is set to 100% at 0 min incubation.

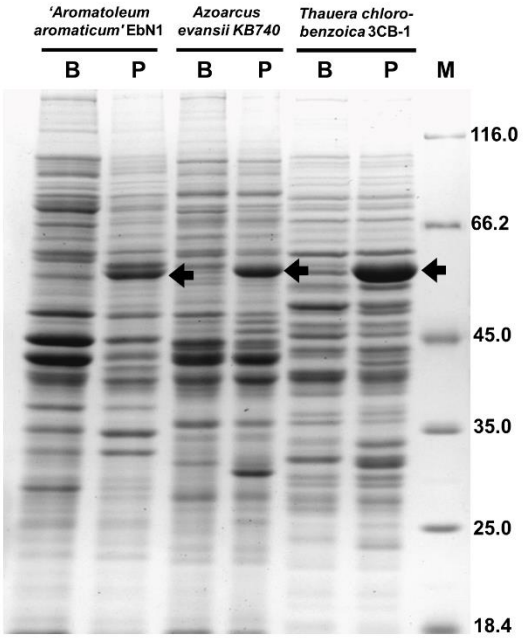

Figure S3 SDS-PAGE of cell-free extracts of '*Aromatoleum aromaticum*' EbN1, *Azoarcus evansii* KB740 and *Thauera chlorobenzoica* 3CB1 anaerobically grown under denitrifying conditions with either benzoate (B) or phthalate (P) as carbon source. The arrows indicate the bands analyzed by M/S. The size of marker bands (M) is given in kDa.

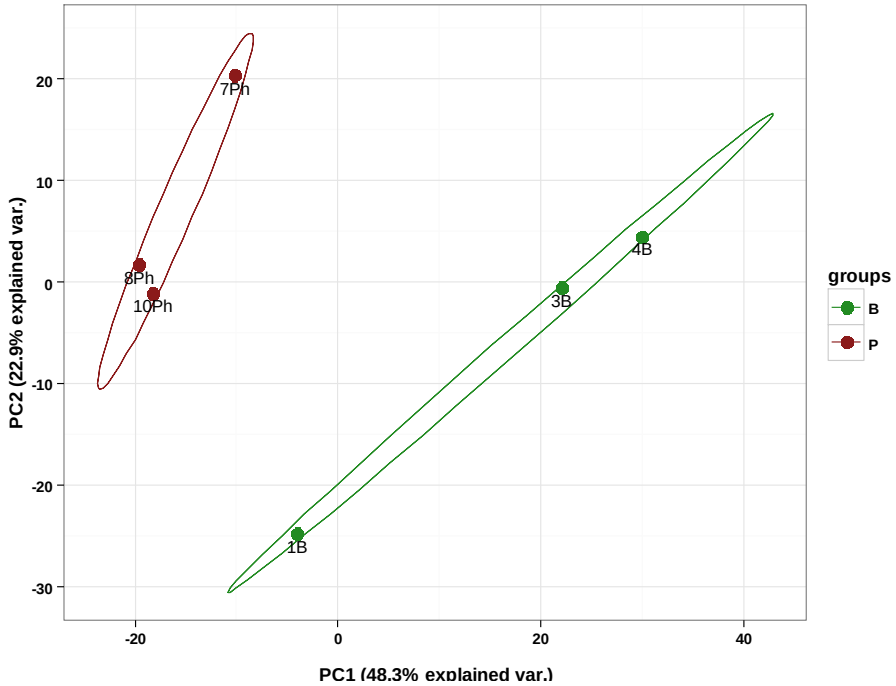

Figure S4 Principal Component Analysis (PCA) plot indicating the differences in the proteome pattern of *A. aromaticum* grown on benzoate (green) or phthalate (dark red).

Table S1 Inhibition of benzoyl-CoA formation in cell-free extracts of phthalate grown *T. chlorobenzoica* by 2-cyanobenzoyl-CoA. Extracts of cells grown with phthalate were incubated for 15 min with 100 µM 2-cyanobenzoyl-CoA which was also supplemented in the enzyme assay at the same concentration. Errors are given as standard deviations of the mean of two biological replicates.

	Succinyl-CoA consumption (nmol min^{-1} $mg^{-.1}$)	CoA formation (nmol min^{-1} $mg^{-.1}$)	Benzoyl-CoA formation (nmol min^{-1} $mg^{-.1}$)
Control without 2-cyanobenzoyl-CoA	24 ±2	3 ±1	12 ±1
After incubation with 2-cyanobenzoyl-CoA	23 ±4	15 ±3	3 ±1

Table S2 List of proteins identified by proteome analysis. See online Microsoft excel-file Table S2.