toxics

MDPI

Article

Supplementary Material: Degradation Products of Polychlorinated Biphenyls and Their In Vitro Transformation by Ligninolytic Fungi

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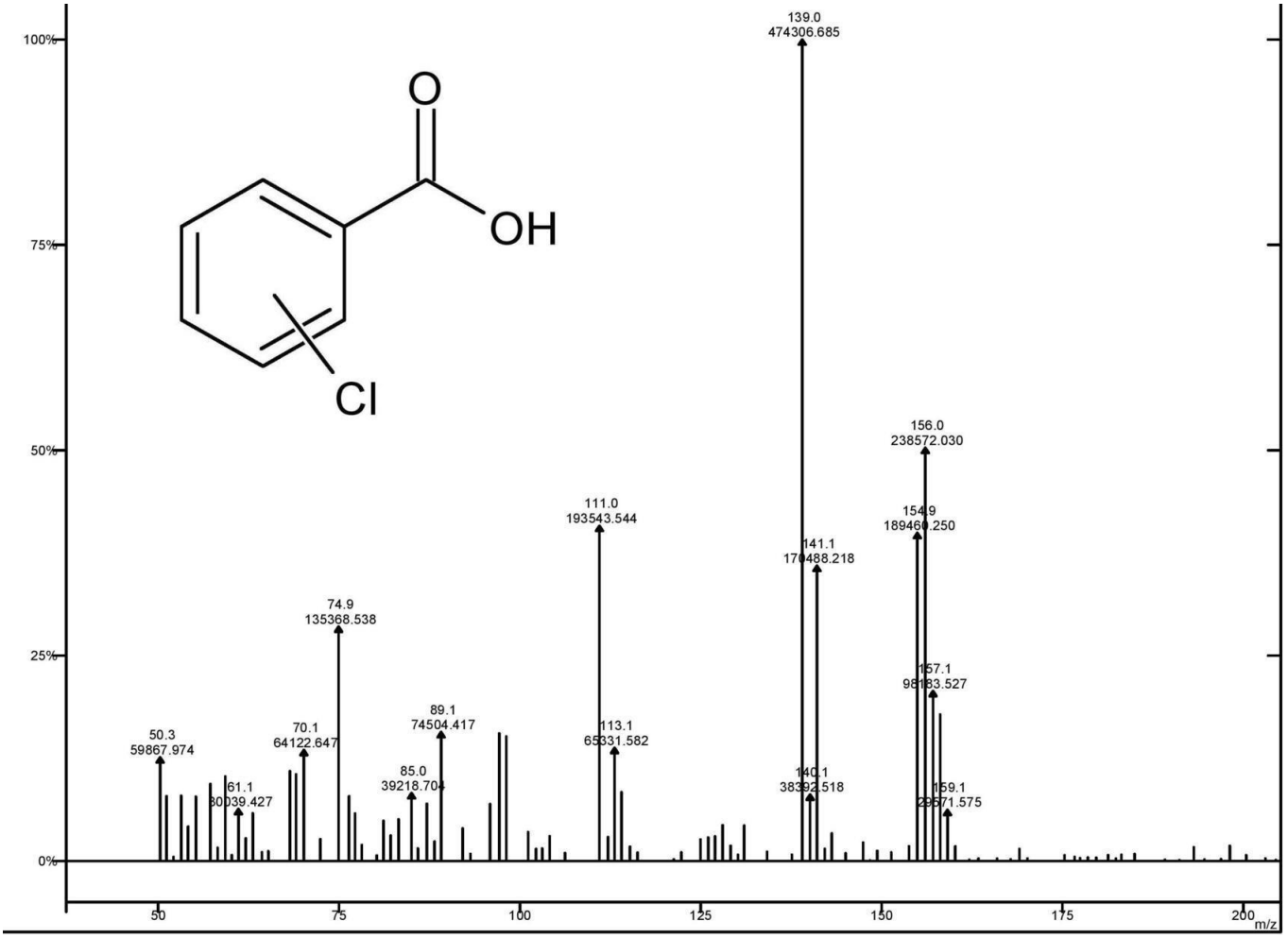
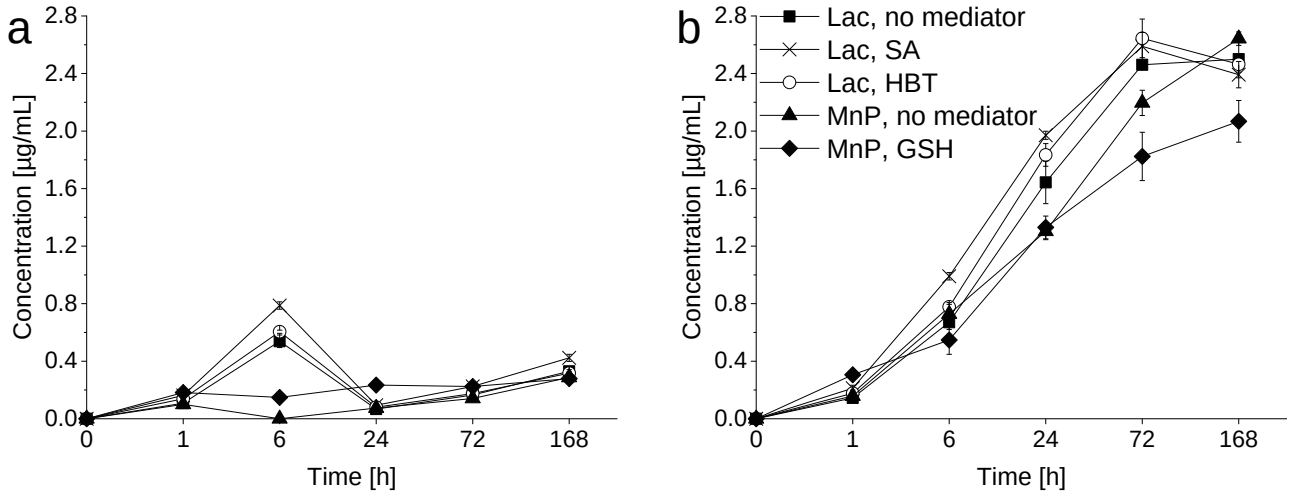


Figure S1. Mass spectrum of a monochlorobenzoic acid detected after biotransformation of hydroxylated polychlorinated biphenyls by extracellular enzymes of *Pleurotus ostreatus*.

Figure S2. Mass spectrum of a hydroxylated monochlorodibenzofuran detected after biotransformation of hydroxylated polychlorinated biphenyls by extracellular enzymes of *Pleurotus ostreatus*.



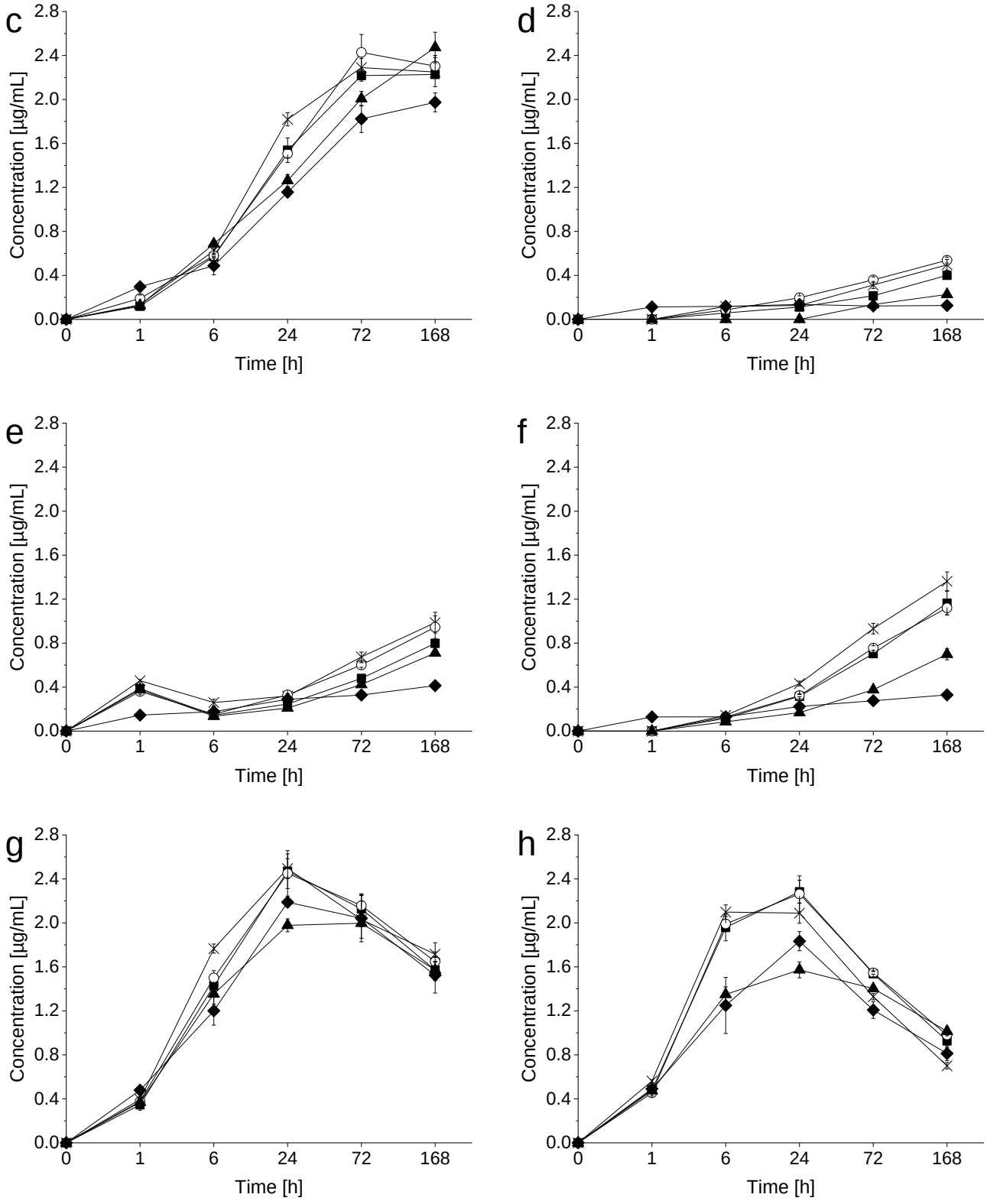
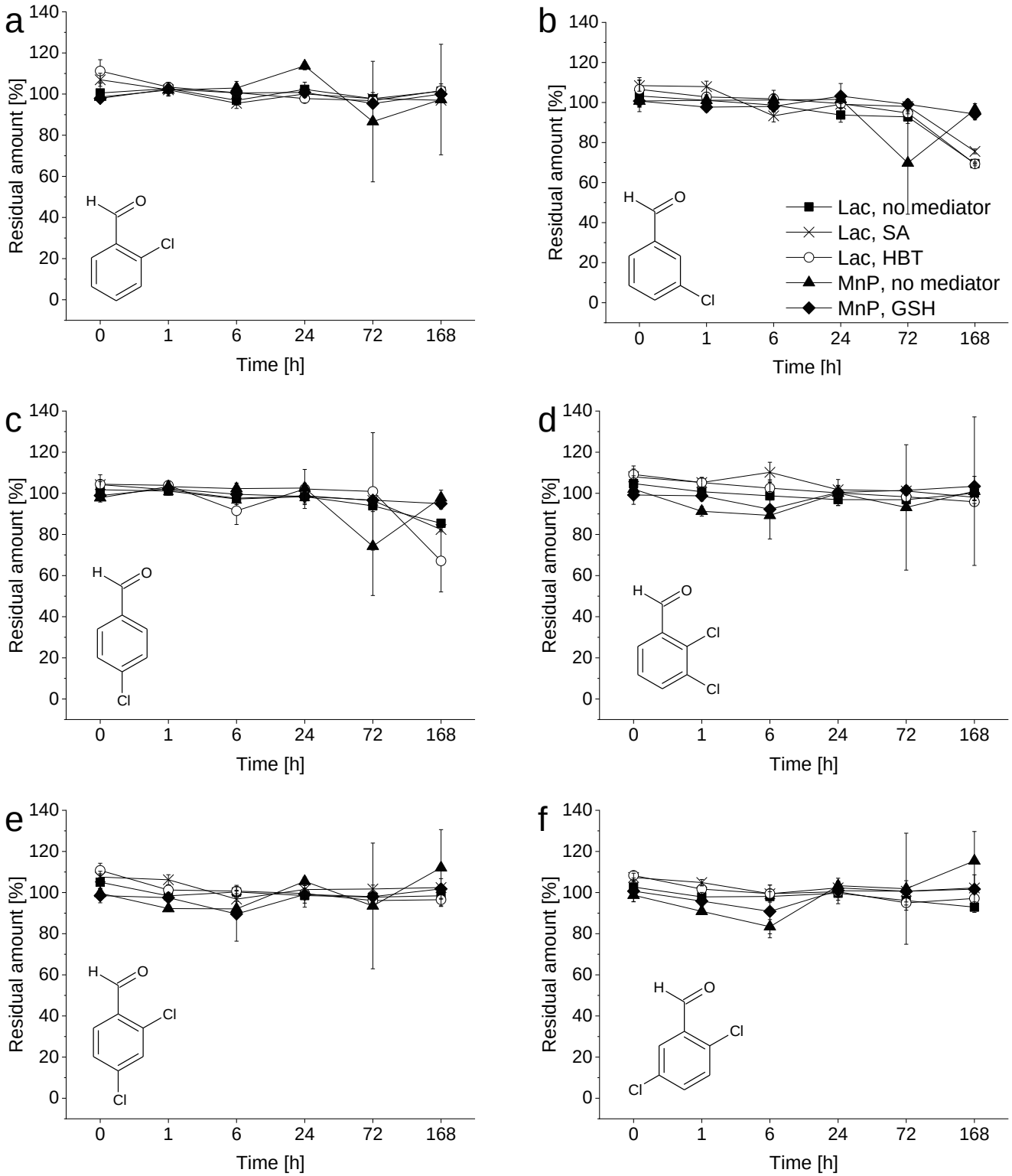


Figure S3. Concentration of chlorobenzaldehydes detected during the biotransformation of chlorobenzyl alcohols (CB-OHs) by the extracellular liquid of *Pleurotus ostreatus*: 2-chlorobenzaldehyde (**a**); 3-chlorobenzaldehyde (**b**); 4-chlorobenzaldehyde (**c**); 2,3-dichlorobenzaldehyde (**d**); 2,4-dichlorobenzaldehyde (**e**); 2,5-dichlorobenzaldehyde (**f**); 3,4-dichlorobenzaldehyde (**g**); and 3,5-dichlorobenzaldehyde (**h**). The CB-OHs were degraded in a mixture; initial concentration was 2 µg mL^{-1} of each. Initial enzyme activity was 450 U L^{-1} of laccase and 30 U L^{-1} of manganese-dependent peroxidase (MnP). The laccase-favouring setup (Lac) contained no mediator (■), syringaldehyde (SA; ×), or 1-hydroxybenzotriazole (HBT; ◯); the MnP-favouring setup contained no mediator (▲) or glutathione (GSH; ◆).


a
b
c
d
e
f
Residual amount [%]
Time [h]
0
1
6
24
72
168
0
20
40
60
80
100
120
140
H
O
Cl
Lac, no mediator
Lac, SA
Lac, HBT
MnP, no mediator
MnP, GSH

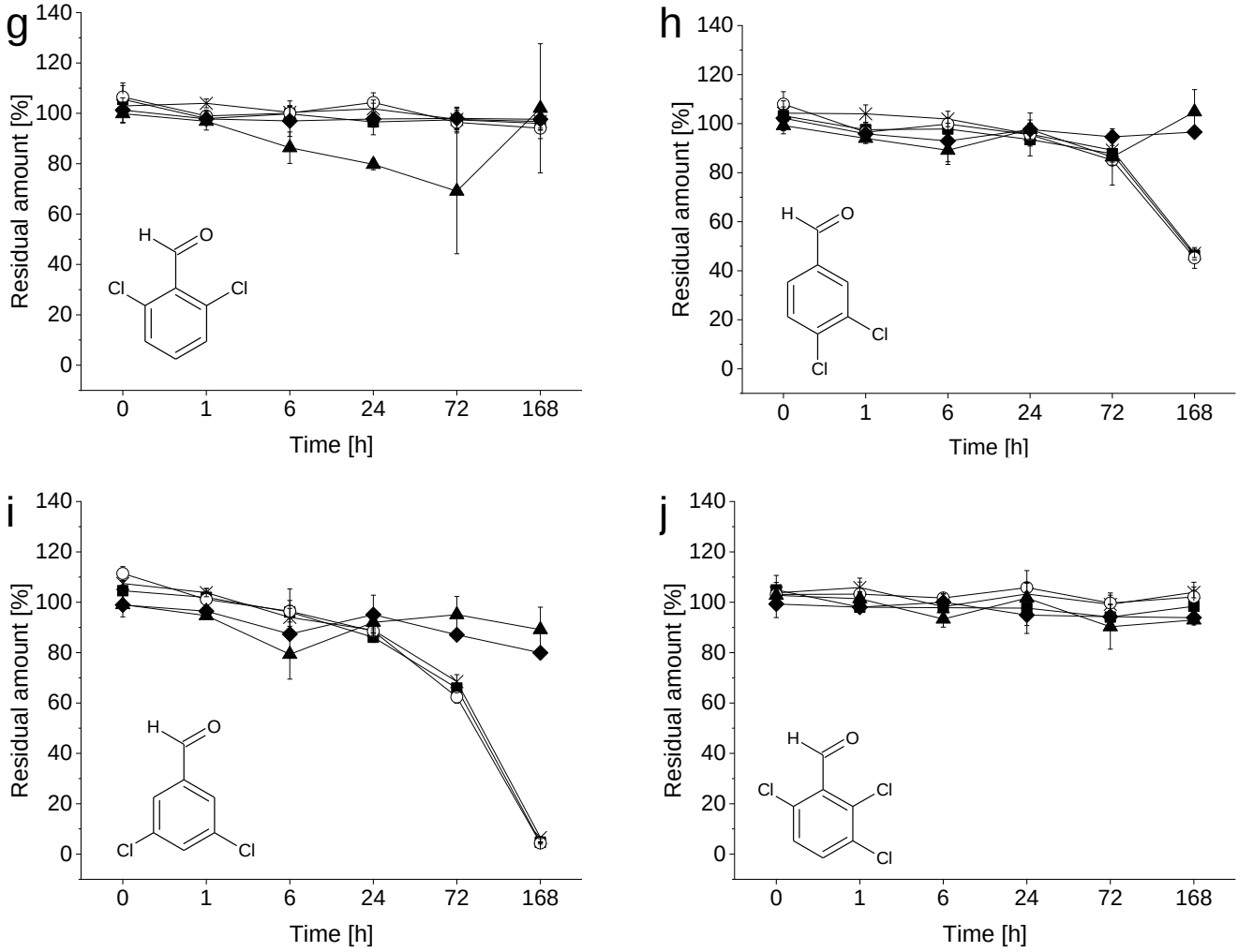


Figure S4. Residual amounts (related to corresponding heat-deactivated controls) of chlorobenzaldehydes (CB-CHOs) obtained during the biotransformation experiment with the extracellular liquid of *Pleurotus ostreatus*: 2-chlorobenzaldehyde (**a**); 3-chlorobenzaldehyde (**b**); 4-chlorobenzaldehyde (**c**); 2,3-dichlorobenzaldehyde (**d**); 2,4-dichlorobenzaldehyde (**e**); 2,5-dichlorobenzaldehyde (**f**); 2,6-dichlorobenzaldehyde (**g**); 3,4-dichlorobenzaldehyde (**h**); 3,5-dichlorobenzaldehyde (**i**); and 2,3,6-trichlorobenzaldehyde (**j**). The CB-CHOs were degraded in a mixture; initial concentration was 2 μg mL^{-1} of each. Initial enzyme activity was 450 U L^{-1} of laccase and 30 U L^{-1} of manganese-dependent peroxidase (MnP). The laccase-favouring setup (Lac) contained no mediator (■), syringaldehyde (SA; ×), or 1-hydroxybenzotriazole (HBT; ◯); the MnP-favouring setup contained no mediator (▲) or glutathione (GSH; ◆).

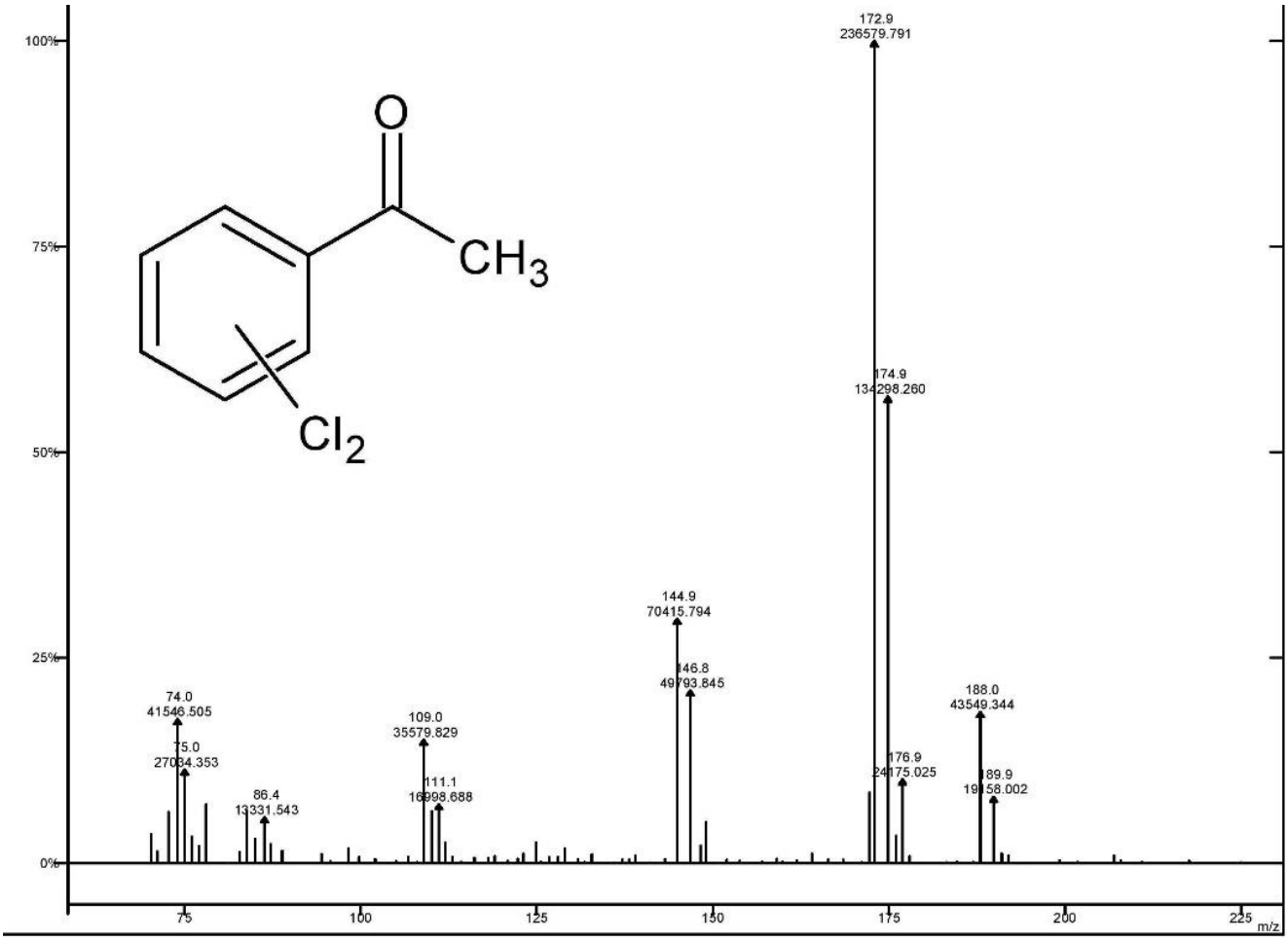


Figure S5. Mass spectrum of a dichlorinated acetophenone detected after biotransformation of chlorobenzaldehydes by extracellular enzymes of *Irpex lacteus*.

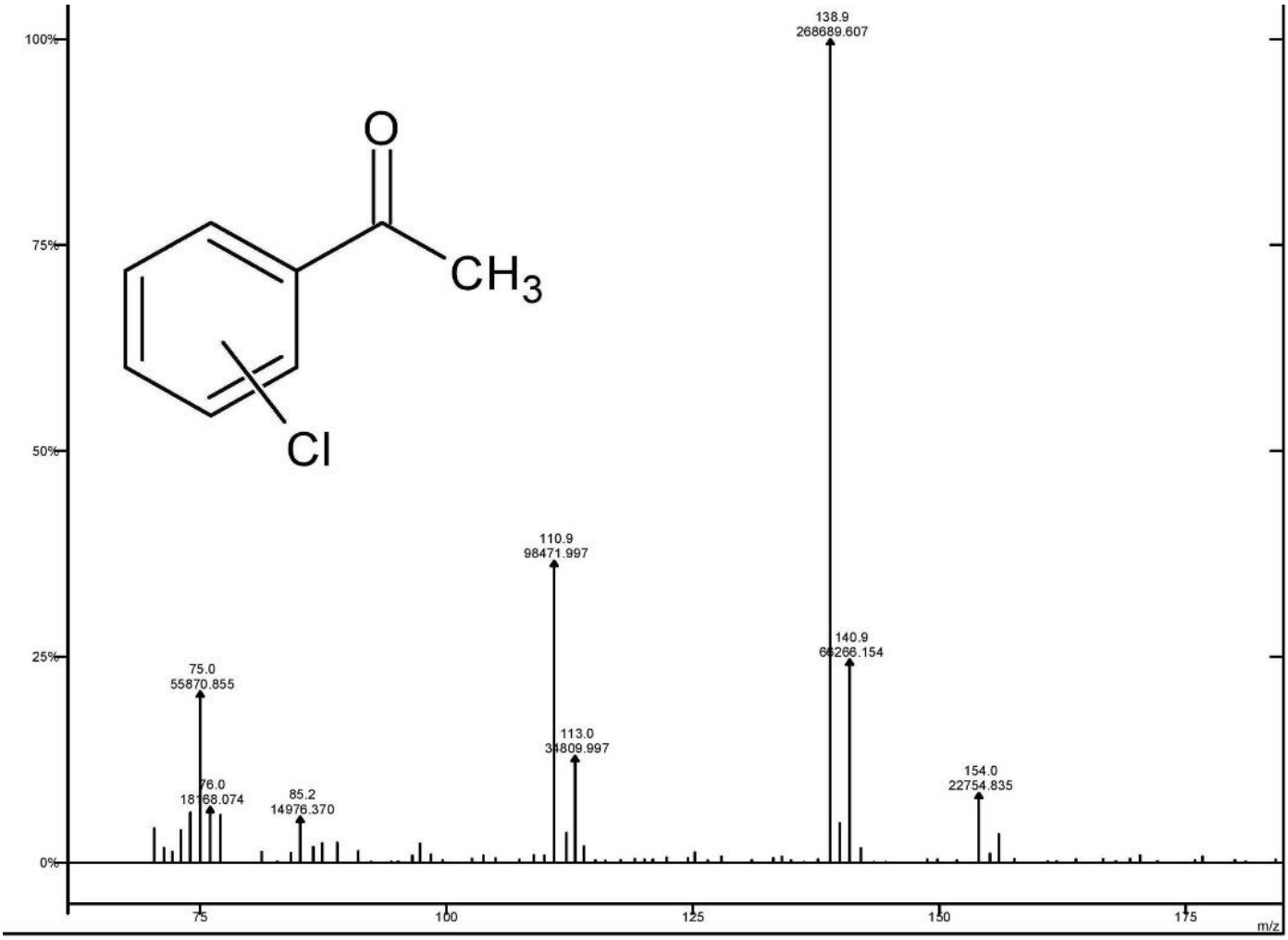


Figure S6. Mass spectrum of a monochlorinated acetophenone detected after biotransformation of chlorobenzaldehydes by extracellular enzymes of *Irpex lacteus*.