*Supporting Information*

# Novel insights into mice multi-organ metabolism upon exposure to a potential anticancer Pd(II)-agent

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**Figure S1**

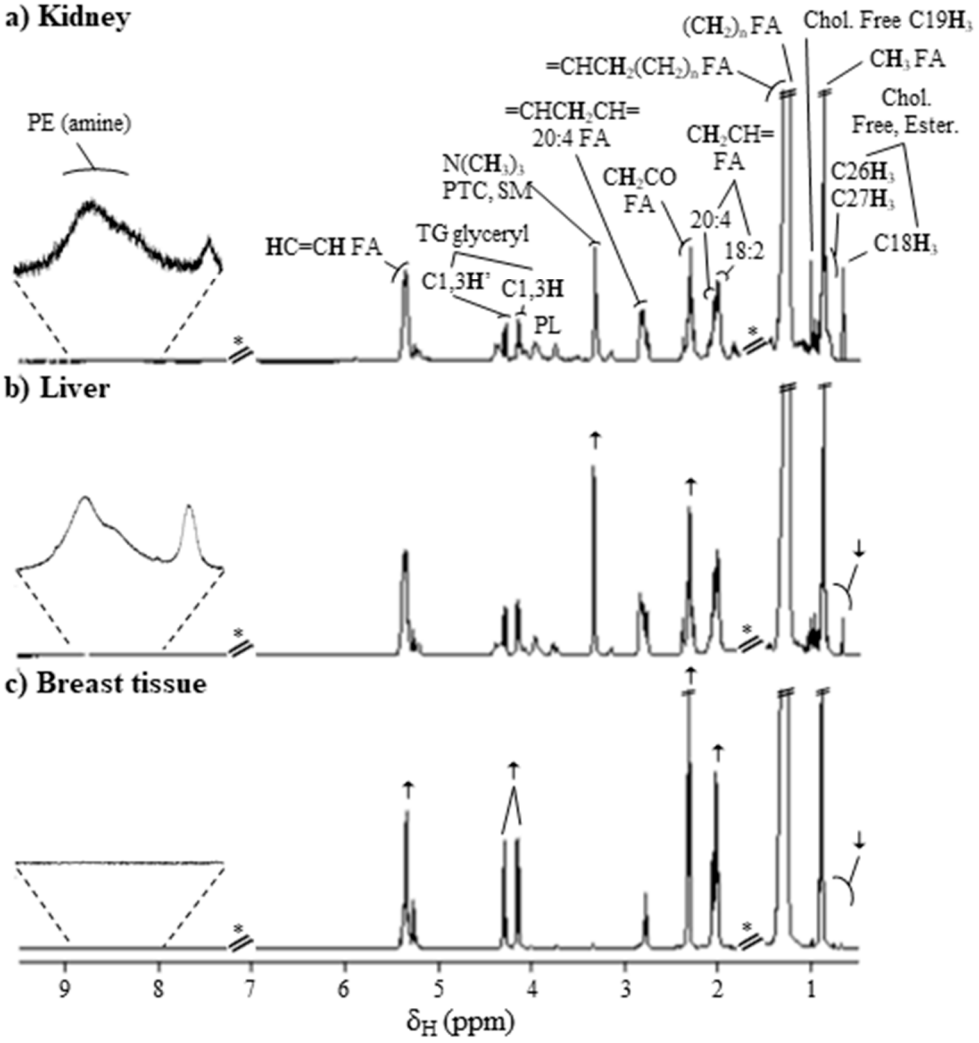


**Figure S1**. **Average 500 MHz $^{1}$H NMR spectra of lipophilic extracts of kidney, liver and breast tissue**. Spectra obtained for (a) kidney, (b) liver and (c) breast tissue of BALB/c mice after 1h of post-injection with phosphate buffer saline (controls). * residual $CDCl_3$ (δ 7.15-7.37, and corresponding satellites at δ 7.04-7.06 and δ 7.45-δ7.47) and water (δ 1.45-1.70) regions, removed from matrix used for multivariate analysis. Arrows identify noticeable differences in some metabolites between tissues. Abbreviations: Chol., cholesterol; Ester., esterified; FA, fatty acid; PL, phospholipids glyceryl moieties; PTC, phosphatidylcholine; PE, phosphatidylethanolamine; SM, sphingomyelin; TG, triacylglyceride.

**Figure S2**

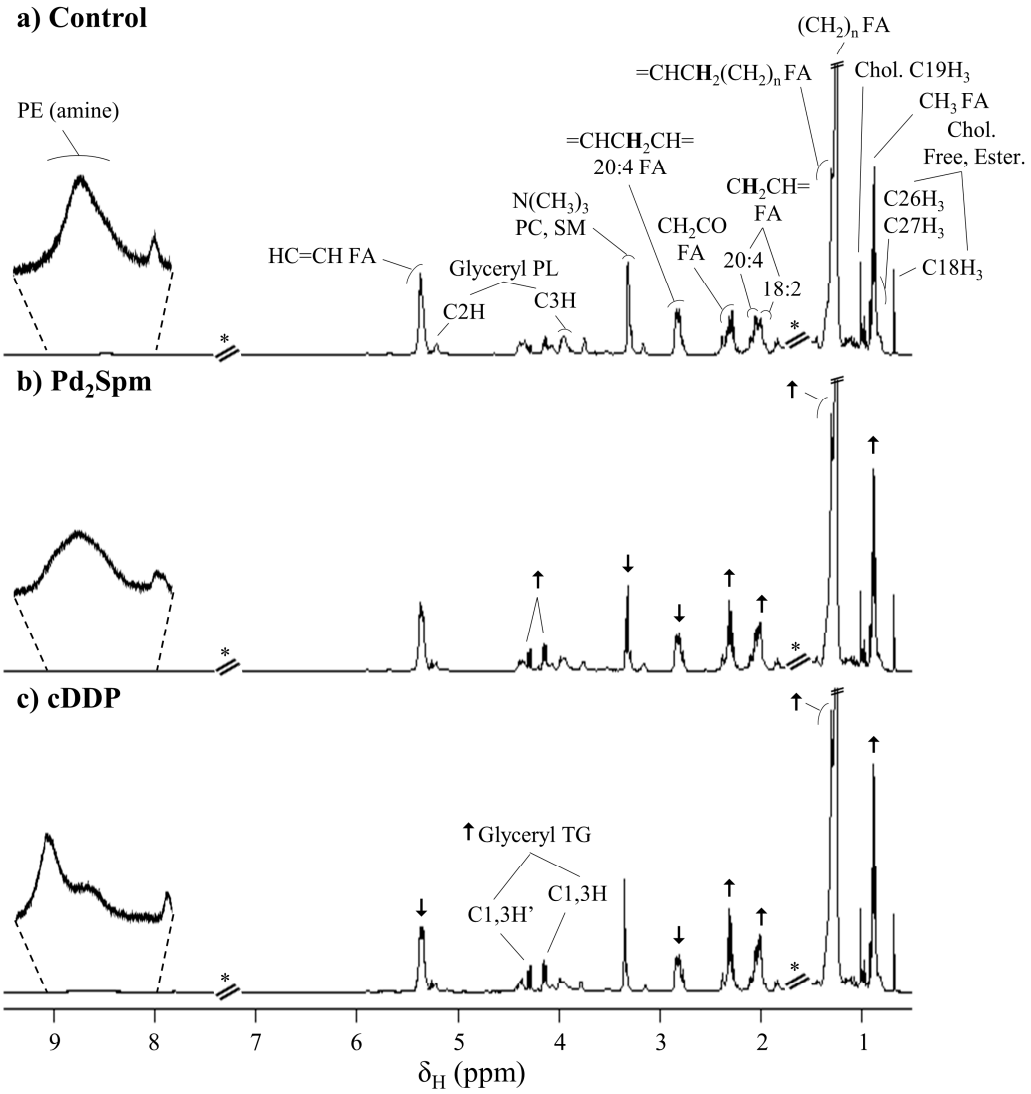


**Figure S2**. **Average 500 MHz $^{1}$H NMR spectra of lipophilic kidney extracts of mice exposed to cDDP and $Pd_2Spm$.** Extracts correspond to BALB/c mice after 48 h of post-injection with (a) phosphate buffer saline (controls), (b) $Pd_2Spm$ and (c) cDDP. * residual $CDCl_3$ (δ 7.15-7.37, and corresponding satellites at δ 7.04-7.06 and δ 7.45-δ7.47) and water (δ 1.50-1.90) regions, removed from matrix used for multivariate analysis. Abbreviations as defined in Figure S1.

**Figure S3**

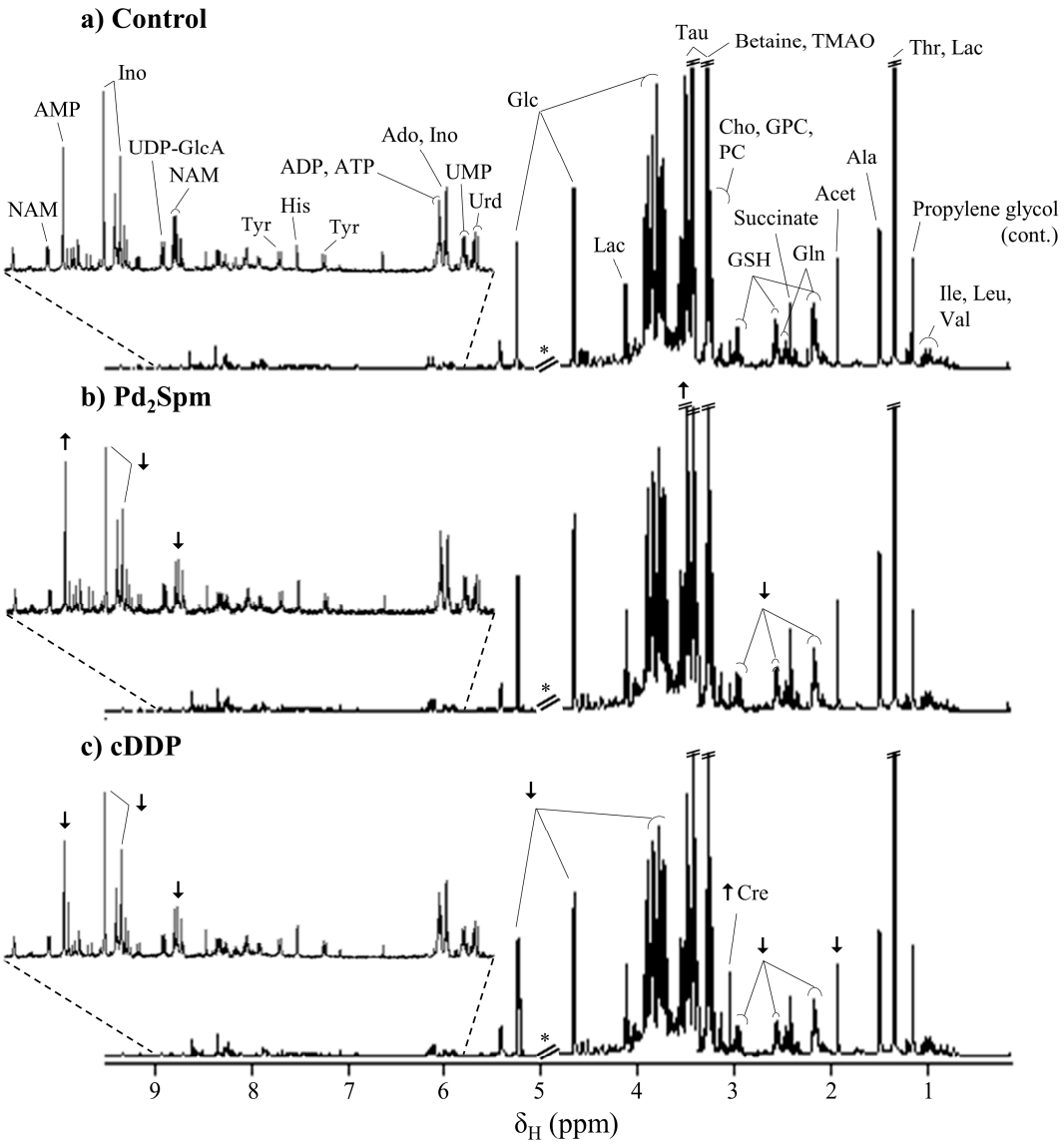


**Figure S3**. **Average 500 MHz $^{1}$H NMR spectra of aqueous liver extracts of mice exposed to $Pd_2Spm$ and cDDP**. Extracts were obtained for BALB/c mice after 12 h of post-injection with (a) phosphate buffer saline (controls), (b) $Pd_2Spm$ and (c) cDDP. *Cut-off spectral region due to water suppression (δ4.69-5.10). Abbreviations: 3-letter code used for amino acids; Acet, acetate; Ado, adenosine; ADP, adenosine diphosphate; AMP, adenosine monophosphate; ATP, adenosine triphosphate; Cho, choline; Cre, creatine; Glc, glucose; GPC, glycerophosphocholine; GSH, reduced glutathione; Ino, inosine; Lac, lactate; NAM, niacinamide; PC, phosphocholine; Tau, taurine; TMAO, trimethylamine-*N*-oxide; UDP-GlcA: uridine diphosphate-glucuronate; UMP, uridine monophosphate; Urd, uridine.

**Supplementary tables S1, S2, S3 and S4**

**Table S1. List of metabolite variations in aqueous kidney extracts of mice exposed to cDDP and $Pd_2Spm$ at 1, 12 and 48 h post-injection, compared to controls.** Only variations with 95% significance level (p-value < 0.05) are shown; ES, effect size; ES error values in brackets correspond to > 75% of ES value; [a] variations remaining significant after False Discovery Rate correction; [b] metabolic variations specific of exposure to $Pd_2Spm$ (these comprise both new variations and variations in the same metabolite but in opposite directions). 3-letter code used for amino acids; 3-HIBA, 3-hydroxyisobutyrate; ADP, adenosine diphosphate; AMP, adenosine monophosphate; Cho, choline; Cre, creatine; DMA, dimethylamine; $DMSO_2$, dimethyl sulfone (tentative assignment); Glc, glucose; PC, phosphocholine; Tau, taurine; TMA, trimethylamine; $NAD^+$, nicotinamide adenine dinucleotide; UDP-GlcA, uridine-diphosphate-glucuronate; UMP, uridine monophosphate; Ui, unassigned i. [†] Tentative assignment. s: singlet, d: doublet, m: multiplet, t: triplet, dd: doublet of doublets.

| **Metabolite assignment** | **$\delta_H$ ppm multiplicity** | **cDDP *vs.* Controls** (according to reference [15]) | | | | | | **$Pd_2Spm$ *vs.* Controls** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 h | | 12 h | | 48 h | | 1 h | | 12 h | | 48 h | |
| | | ES ± Error | p-value | ES ± Error | p-value | ES ± Error | p-value | ES ± Error | p-value | ES ± Error | p-value | ES ± Error | p-value |
| 3-HIBA | 1.09 (d) | 4.7 ± 2.5 | 1.9E-4 [a] | -2.2 ± 1.6 | 9.5E-3 | - - - | - | 2.7 ± 1.8 | 4.7E-3 [a] | - - - | - | - - - | - |
| ADP | 8.28 (s) | 1.8 ± (1.6) | 2.9E-2 | 1.8 ± (1.5) | 1.6E-2 | - - - | - | 2.3 ± 1.7 | 8.8E-3 [a] | - - - | - | - - - | - |
| Ala | 1.48 (d) | -3.0 ± 1.9 | 9.5E-3 [a] | - - - | - | -2.2 ± 1.7 | 1.1E-2 | -1.9 ± (1.6) | 3.1E-2 [a] | - - - | - | - - - | - |
| Allantoin | 5.39 (s) | - - - | - | -2.3 ± 1.6 | 9.3E-3 | - - - | - | - - - | - | - - - | - | - - - | - |
| AMP | 8.61 (s) | 1.8 ± (1.5) | 3.3E-2 | 1.9 ± (1.5) | 2.8E-2 | - - - | - | 1.8 ± (1.6) | 3.3E-2 [a] | - - - | - | - - - | - |
| Asn | 2.96 (m) | - - - | - | -1.9 ± (1.5) | 2.3E-2 | - - - | - | - - - | - | - - - | - | - - - | - |
| Betaine | 3.90 (s) | - - - | - | 1.8 ± (1.5) | 3.8E-2 | - - - | - | - - - | - | - - - | - | - - - | - |
| Cho | 3.21 (s) | -2.1 ± 1.6 | 1.6E-2 | -3.2 ± 1.9 | 2.7E-3 | - - - | - | -3.6 ± 2.1 | 8.2E-4 [a] | -2.7 ± 1.7 | 5.8E-3 | - - - | - |
| Cre | 3.93 (s) | - - - | - | -2.5 ± 1.6 | 1.1E-2 | - - - | - | - - - | - | -2.3 ± 1.6 | 1.0E-2 | -3.2 ± 2.0 | 1.1E-2 |
| DMA | 2.73 (s) | - - - | - | - - - | - | - - - | - | 3.2 ± 2.0 | 5.5E-3 [a,b] | - - - | - | - - - | - |
| $DMSO_2$ [†] | 3.15 (s) | - - - | - | -1.9 ± (1.5) | 3.2E-2 | - - - | - | 9.8 ± 4.7 | 2.1E-5 [a, b] | - - - | - | - - - | - |
| Fumarate | 6.52 (s) | - - - | - | - - - | - | -3.5 ± 2.1 | 2.7E-3 [a] | 2.9 ± 1.9 | 2.1E-2 [a, b] | 2.0 ± 1.5 | 1.4E-2 [b] | 2.2 ± 1.7 | 1.5E-2 |
| Glc | 5.23 (d) | - - - | - | 1.9 ± (1.5) | 2.7E-2 | - - - | - | - - - | - | - - - | - | - - - | - |
| Hypoxanthine | 8.21 (s) | - - - | - | - - - | - | -2.6 ± 1.8 | 3.3E-2 | - - - | - | - - - | - | - - - | - |
| Ile | 1.01 (d) | -3.1 ± 1.9 | 4.1E-3 [a] | -1.9 ± (1.5) | 3.3E-2 | -2.2 ± 1.7 | 1.5E-2 | -2.2 ± 1.7 | 1.2E-2 [a] | - - - | - | - - - | - |
| Leu | 0.96 (t) | -3.5 ± 2.1 | 1.2E-3 [a] | -1.8 ± (1.5) | 3.0E-2 | -1.8 ± (1.6) | 2.5E-2 | -3.5 ± 2.1 | 1.5E-3 [a] | - - - | - | - - - | - |
| *m*-Inositol | 4.06 (t) | - - - | - | - - - | - | - - - | - | -2.2 ± 1.7 | 1.3E-2 [a] | -1.7 ± (1.4) | 3.1E-2 [b] | - - - | - |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Niacinamide | 7.60 (dd) | - | - | - | - | - | - | - | - | -1.7 | ± (1.5) | 3.6E-2 | - | - | - | - | - | - | - | - | - |
| PC | 3.22 (s) | - | - | - | - | 1.9 | ± (1.5) | 1.7E-2 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Phe | 7.33 (d) | -3.2 | ± 2.0 | 1.6E-2 | - | - | - | - | - | - | - | - | -3.3 | ± 2.0 | 1.6E-2 [a] | -1.6 | ± (1.4) | 3.6E-2 | - | - | - |
| Succinate | 2.41 (s) | - | - | - | - | - | - | - | - | - | - | - | 2.0 | ± (1.6) | 2.0E-2 [a, b] | -1.5 | ± (1.4) | 4.3E-2 [b] | -1.6 | ± (1.5) | 3.2E-2 [b] |
| Tau | 3.42 (t) | 3.0 | ± 1.9 | 3.2E-3 [a] | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| TMA | 2.89 (s) | - | - | - | - | - | - | - | - | -4.3 | ± 2.4 | 1.1E-3 [a] | - | - | - | - | - | - | - | - | - |
| Tyr | 6.90 (d) | -2.1 | ± 1.6 | 1.6E-2 | - | - | - | - | - | -3.1 | ± 1.9 | 2.5E-3 [a] | -2.5 | ± 1.8 | 7.0E-3 [a] | - | - | - | - | - | - |
| $NAD^+$ | 8.43 (s) | - | - | - | - | 1.7 | ± (1.4) | 1.6E-2 | - | - | - | - | 2.4 | ± 1.7 | 1.6E-2 [a] | 1.7 | ± (1.5) | 3.2E-2 | - | - | - |
| UDP-GlcA | 7.95 (d) | - | - | - | - | 1.7 | ± (1.4) | 3.0E-2 | - | - | - | - | 2.9 | ± 1.9 | 2.7E-3 [a] | - | - | - | - | -2.1 ± 1.6 | 2.8E-2 [b] |
| UMP | 5.99 (m) | 1.8 | ± (1.6) | 2.8E-2 | - | - | - | - | - | - | - | - | 2.2 | ± 1.7 | 1.2E-2 [a] | - | - | - | - | - | - |
| Val | 1.05 (d) | -2.5 | ± 1.7 | 8.9E-3 [a] | -2.1 | ± 1.5 | 2.0E-2 | -2.0 | ± (1.6) | 2.1E-2 | -2.2 | ± 1.7 | 1.0E-2 [a] | - | - | - | - | - | - | - | - |
| U1 | 0.89 (t) | - | - | - | - | - | - | - | -2.5 | ± 1.8 | 1.6E-2 | - | - | - | - | 1.9 | ± (1.5) | 1.9E-2 [b] | - | - | - |
| U2 | 0.93 (s) | - | - | - | - | -2.1 | ± 1.6 | 1.2E-2 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| U3 | 1.62 (d) | - | - | - | - | -2.8 | ± 1.7 | 5.0E-3 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| U4 | 2.92 (s) | - | - | - | - | -1.7 | ± (1.4) | 3.5E-2 | - | - | - | - | 3.5 | ± 2.1 | 1.1E-3 [a, b] | - | - | - | 2.1 | ± 1.6 | 1.6E-2 [b] |
| U5 | 3.35 (s) | 2.0 | ± (1.6) | 1.8E-2 | 1.8 | ± (1.5) | 2.2E-2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Table S2. List of metabolite variations in aqueous liver extracts of mice exposed to cDDP and $Pd_2Spm$ at 1, 12 and 48 h post-injection, compared to controls.** Only variations with 95% significance level (p-value < 0.05) are shown; ES, effect size; ES error values in brackets correspond to > 75% of ES value; [a] variations remaining significant after False Discovery Rate correction.; [b] metabolite variations specific of exposure to $Pd_2Spm$ (these comprise both new variations and variations in the same metabolite but in opposite directions). [†] Tentative assignment. 3-HBA, 3-hydroxybutyrate; Ado, adenosine; ATP, adenosine triphosphate; GPC, glycerophosphocholine; GSH, glutathione (reduced); IMP, inosine monophosphate; Ino, inosine; other abbreviations as defined in Table S1.

| **Metabolite assignment** | **$\delta_H$ ppm multiplicity** | **cDDP *vs.* Controls** (according to reference [15]) | | | | | | **$Pd_2Spm$ *vs.* Controls** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 h | | 12 h | | 48 h | | 1 h | | 12 h | | 48 h | |
| | | ES ± Error | p-value | ES ± Error | p-value | ES ± Error | p-value | ES ± Error | p-value | ES ± Error | p-value | ES ± Error | p-value |
| 2-aminobutyrate [†] | 0.80 (t) | - - - | - | -1.6 ± (1.4) | 4.4E-2 | - - - | - | -1.5 ± (1.4) | 3.7E-2 [a] | - - - | - | - - - | - |
| 3-HBA | 1.20 (d) | - - - | - | -1.8 ± (1.5) | 3.1E-2 | - - - | - | -1.5 ± (1.4) | 4.8E-2 | - - - | - | - - - | - |
| Acetate | 1.92 (s) | - - - | - | - - - | - | -2.5 ± 1.7 | 2.0E-2 | - - - | - | - - - | - | -1.7 ± (1.5) | 4.1E-2 |
| Acetone | 2.24 (s) | - - - | - | -5.1 ± 2.6 | 5.2E-5 [a] | - - - | - | - - - | - | -1.9 ± (1.6) | 3.7E-5 [a] | - - - | - |
| Ado/ Ino | 4.44 (dd) | - - - | - | - - - | - | - - - | - | -1.8 ± (1.5) | 2.0E-2 [b] | - - - | - | - - - | - |
| ADP | 8.54 (s) | - - - | - | - - - | - | 2.6 ± 1.8 | 1.6E-2 | - - - | - | - - - | - | - - - | - |
| AMP | 4.51 (dd) | - - - | - | - - - | - | 2.8 ± 1.8 | 3.8E-3 | - - - | - | - - - | - | - - - | - |
| Asp | 2.67 (dd) | - - - | - | - - - | - | - - - | - | - - - | - | - - - | - | -2.0 ± (1.6) | 3.6E-2 [b] |
| ATP | 8.52 (s) | - - - | - | - - - | - | 2.3 ± 1.7 | 1.6E-2 | - - - | - | - - - | - | - - - | - |
| DMA | 2.73 (s) | - - - | - | -2.4 ± 1.6 | 6.0E-3 [a] | - - - | - | 3.2 ± 1.9 | 6.9E-3 [a,b] | - - - | - | - - - | - |
| Formate | 8.46 (s) | - - - | - | -1.9 ± (1.5) | 7.9E-3 [a] | - - - | - | - - - | - | - - - | - | - - - | - |
| GPC | 3.23 (s) | - - - | - | - - - | - | - - - | - | - - - | - | 1.6 ± (1.5) | 2.1E-2 [b] | - - - | - |
| GSH | 2.55 (m) | - - - | - | -4.0 ± 2.1 | 2.7E-4 [a] | - - - | - | - - - | - | - - - | - | - - - | - |
| His | 7.08 (s) | - - - | - | 2.2 ± 1.6 | 9.1E-3 | - - - | - | - - - | - | - - - | - | 1.6 ± (1.5) | 4.3E-2 |
| Ile | 1.01 (d) | - - - | - | - - - | - | - - - | - | -2.3 ± 1.6 | 5.8E-3 [a,b] | - - - | - | - - - | - |
| IMP | 8.58 (s) | - - - | - | - - - | - | 1.7 ± (1.5) | 3.2E-2 | - - - | - | - - - | - | - - - | - |
| Ino | 8.35 (s) | - - - | - | - - - | - | - - - | - | -1.7 ± (1.5) | 2.5E-2 [a,b] | - - - | - | - - - | - |
| Lactate | 4.10 (q) | -2.7 ± 1.7 | 6.9E-3 | 1.7 ± (1.5) | 3.0E-2 | - - - | - | - - - | - | - - - | - | - - - | - |
| Leu | 0.96 (t) | - - - | - | - - - | - | - - - | - | -2.0 ± 1.5 | 8.7E-3 [a,b] | - - - | - | - - - | - |
| Lys | 1.71 (m) | - - - | - | - - - | - | - - - | - | -1.8 ± (1.5) | 1.3E-2 [a,b] | - - - | - | 2.6 ± 1.8 | 5.5E-3 [b] |
| $NAD^+$ | 8.43 (s) | - - - | - | - - - | - | 2.6 ± 1.8 | 9.9E-3 | - - - | - | - - - | - | - - - | - |

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phe | 7.33 (d) | - | - | - | - | - | - | - | - | - | - | - | - | -1.6 | ± | (1.4) | 2.2E-2 [a,b] | - | - | - | - | - | - | - | - |
| Thr, Lactate | 1.33 (d) | -2.3 | ± | 1.6 | 3.2E-2 | 1.9 | ± | (1.5) | 1.9E-2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Tyr | 6.90 (d) | - | - | - | - | - | - | - | - | 1.9 | ± | (1.6) | 2.3E-2 | -1.7 | ± | (1.4) | 1.9E-2 [a,b] | - | - | - | - | - | - | - | - |
| UDP-GlcA | 7.95 (d) | - | - | - | - | -1.7 | ± | (1.4) | 3.0E-2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Uridine | 7.86 (d) | - | - | - | - | - | - | - | - | - | - | - | - | -2.6 | ± | 1.7 | 2.4E-3 [a,b] | - | - | - | - | - | - | - | - |
| Val | 1.05 (d) | - | - | - | - | - | - | - | - | - | - | - | - | -1.9 | ± | (1.5) | 1.1E-2 [a,b] | - | - | - | - | 1.9 | ± | (1.6) | 2.3E-2 [b] |
| U6 | 0.73 (s) | -2.2 | ± | 1.6 | 1.6E-2 | - | - | - | - | 2.6 | ± | 1.8 | 1.6E-2 | - | - | - | - | - | - | - | - | - | - | - | - |
| U7 | 0.85 (t) | - | - | - | - | -1.6 | ± | (1.4) | 1.6E-2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| U8 | 3.10 (d) | - | - | - | - | 2.5 | ± | 1.7 | 9.8E-3 [a] | - | - | - | - | 2.5 | ± | 1.7 | 8.4E-3 [a] | - | - | - | - | - | - | - | - |
| U9 | 4.31 (d) | -1.6 | ± | (1.4) | 4.7E-2 | -1.8 | ± | (1.5) | 2.1E-2 | 1.7 | ± | (1.5) | 3.3E-2 | - | - | - | - | - | - | - | - | - | - | - | - |
| U10 | 6.18 (s) | -1.7 | ± | (1.5) | 3.6E-2 | -2.6 | ± | 1.7 | 7.8E-3 [a] | 2.2 | ± | 1.7 | 2.3E-2 | - | - | - | - | - | - | - | - | - | - | - | - |
| U11 | 8.28 (br) | - | - | - | - | -1.8 | ± | (1.5) | 3.5E-2 | 1.8 | ± | (1.5) | 4.2E-2 | - | - | - | - | - | - | - | - | - | - | - | - |

**Table S3. List of metabolite variations found in aqueous breast tissue extracts of mice exposed to cDDP and $Pd_2Spm$ at 1, 12 and 48 h post-injection, compared to controls.** Only variations with 95% significance level (p-value < 0.05) are shown; ES, effect size; ES error values in brackets correspond to > 75% of ES value; [a] variations remaining significant after False Discovery Rate correction, [b] metabolite variations specific of exposure to $Pd_2Spm$ (these comprise both new variations and variations in the same metabolite but in opposite directions). [†] Tentative assignment. Abbreviations as defined in Tables S1 and S2.

| **Metabolite assignment** | **$\delta_H$ ppm multiplicity** | **cDDP *vs.*Controls** (according to reference [15]) | | | | | | **$Pd_2Spm$ *vs.*Controls** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 h | | 12 h | | 48 h | | 1 h | | 12 h | | 48 h | |
| | | ES ± Error | p-value | ES ± Error | p-value | ES ± Error | p-value | ES ± Error | p-value | ES ± Error | p-value | ES ± Error | p-value |
| 3-HBA | 1.20 (d) | 1.8 ± (1.5) | 4.3E-2 | - - - | - | - - - | - | - - - | - | - - - | - | - - - | - |
| Ado/Ino | 6.10 (d) | - - - | - | -2.4 ± 1.6 | 6.1E-3 [a] | - - - | - | - - - | - | -1.9 ± (1.5) | 1.5E-2 | - - - | - |
| ADP | 8.54 (s) | - - - | - | 1.7 ± (1.4) | 3.1E-2 [a] | - - - | - | 1.9 ± (1.5) | 1.6E-2 | 4.5 ± 2.3 | 1.8E-4 [a] | - - - | - |
| Creatinine | 3.04 (s) | - - - | - | - - - | - | - - - | - | - - - | - | - - - | - | 1.6 ± (1.5) | 3.2E-2 [b] |
| DMA | 2.73 (s) | - - - | - | - - - | - | - - - | - | 3.6 ± 2.0 | 4.9E-3 [a,b] | - - - | - | - - - | - |
| $DMSO_2$ [†] | 3.15 (s) | - - - | - | - - - | - | - - - | - | 8.8 ± 4.0 | 1.8E-6 [a,b] | - - - | - | - - - | - |
| Formate | 8.46 (s) | - - - | - | - - - | - | - - - | - | - - - | - | -1.6 ± (1.4) | 4.7E-2 [b] | - - - | - |
| Gln | 2.45 (m) | - - - | - | - - - | - | -2.2 ± 1.6 | 1.2E-2 | - - - | - | - - - | - | - - - | - |
| Gly | 3.56 (s) | - - - | - | - - - | - | - - - | - | -1.6 ± (1.4) | 4.6E-2 [b] | - - - | - | - - - | - |
| GSH | 2.55 (m) | - - - | - | - - - | - | - - - | - | 1.8 ± (1.5) | 2.0E-2 [b] | - - - | - | - - - | - |
| Guanine [†] | 7.68 (s) | - - - | - | - - - | - | -1.9 ± (1.6) | 3.1E-2 | - - - | - | -1.9 ± (1.5) | 2.5E-2 | -1.8 ± (1.6) | 3.2E-2 |
| Ino | 8.35 (s) | - - - | - | -2.8 ± 1.7 | 2.4E-3 [a] | - - - | - | - - - | - | -2.3 ± 1.6 | 6.8E-3 [a] | - - - | - |
| Tyr | 6.90 (d) | - - - | - | - - - | - | - - - | - | - - - | - | -1.6 ± (1.4) | 3.7E-2 [b] | - - - | - |
| U12 | 1.25 (s) | - - - | - | 2.0 ± 1.5 | 2.6E-2 [a] | - - - | - | 2.1 ± 1.6 | 1.7E-2 | 2.0 ± 1.5 | 2.4E-2 | - - - | - |

**Table S4. List of metabolite variations found in lipophilic extracts of kidney, liver and breast tissue of mice exposed to cDDP and $Pd_2Spm$ at 1, 12 and 48 h post-injection, compared to controls.** Only variations with 95% significance level (p-value < 0.05) are shown; ES, effect size; ES error values in brackets correspond to > 75% of ES values; [a] variations remaining significant after False Discovery Rate correction, [b] metabolite variations specific of exposure to $Pd_2Spm$ (these comprise both new variations and variations in the same metabolite but in opposite directions).

| Metabolite family/ assignment | | $\delta_H$ ppm multiplicity | cDDP *vs.* Controls | | | | | | $Pd_2Spm$ *vs.* Controls | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 h | | 12 h | | 48 h | | 1 h | | 12 h | | 48 h | |
| | | | ES ± Error | p-value | ES ± Error | p-value | ES ± Error | p-value | ES ± Error | p-value | ES ± Error | p-value | ES ± Error | p-value |
| **KIDNEY** | | | | | | | | | | | | | | |
| Cholesterol | Free/ Esterified, C18**H**$_3$ | 0.68 (s) | 1.9 ± (1.5) | 2.0E-2 [a] | - - - | - | - - - | - | - - - | - | - - - | - | - - - | - |
| | Free, C4**H'** | 2.27 (t) | 1.7 ± (1.4) | 3.2E-2 [a] | - - - | - | - - - | - | - - - | - | - - - | - | - - - | - |
| | Esterified, C4**H'** | 2.31 (t) | 1.7 ± (1.5) | 2.5E-2 [a] | - - - | - | -2.9 ± 1.9 | 7.7E-3 [a] | - - - | - | - - - | - | - - - | - |
| | Free, C3**H** | 3.53 (m) | - - - | - | - - - | - | - - - | - | - - - | - | - - - | - | -1.6 ± (1.5) | 4.2E-2 [b] |
| Fatty acids | C**H**$_3$ | 0.89 (br) | - - - | - | - - - | - | 1.7 ± (1.5) | 4.4E-2 | - - - | - | - - - | - | 2.1 ± (1.6) | 1.7E-2 |
| | =CHC**H**$_2$(CH$_2$)$_n$ | 1.30 (br) | -1.6 ± (1.4) | 3.2E-2 [a] | - - - | - | - - - | - | - - - | - | - - - | - | 1.7 ± (1.5) | 4.3E-2 [b] |
| | C**H**$_2$CO | 2.30 (m) | -1.6 ± (1.4) | 3.7E-2 [a] | - - - | - | - - - | - | - - - | - | - - - | - | 1.6 ± (1.5) | 4.9E-2 [b] |
| | 18:2 =CHC**H**$_2$CH= | 2.77 (t) | -1.6 ± (1.4) | 3.2E-2 [a] | - - - | - | - - - | - | - - - | - | - - - | - | - - - | - |
| | 18:2 **H**C=C**H** | 5.34 (m) | - - - | - | - - - | - | - - - | - | - - - | - | - - - | - | 1.7 ± (1.5) | 1.6E-2 [b] |
| | 18:2/ 20:4 C**H**$_3$ | 0.98 (t) | 1.5 ± (1.4 | 4.4E-2 | - - - | - | - - - | - | - - - | - | - - - | - | -1.8 ± (1.6) | 2.7E-2 [b] |
| | 20:4 =CHC**H**$_2$CH= | 2.81 (m) | - - - | - | - - - | - | - - - | - | - - - | - | - - - | - | -1.6 ± (1.5) | 4.9E-2 [b] |
| | 20:4 **H**C=C**H** | 5.37 (m) | 1.6 ± (1.4) | 3.2E-2 [a] | - - - | - | - - - | - | - - - | - | - - - | - | - - - | - |
| Phospholipids | C**H**$_2$N(CH$_3$)$_3$ | 3.75 (br) | 1.8 ± (1.5) | 2.4E-2 [a] | - - - | - | -2.6 ± 1.8 | 7.9E-3 [a] | - - - | - | - - - | - | -1.6 ± (1.5) | 4.7E-2 |
| | Glyceryl C3**H**$_2$ | 3.94 (br) | 2.5 ± 1.7 | 4.6E-3 [a] | - - - | - | -3.9 ± 2.2 | 7.0E-4 [a] | - - - | - | - - - | - | - - - | - |
| | Glyceryl C1**H**$_2$ | 4.38 (br) | - - - | - | - - - | - | - - - | - | - - - | - | - - - | - | -1.6 ± (1.5) | 5.0E-2 [b] |
| | Glyceryl C2**H** | 5.20 (br) | 2.0 ± 1.5 | 3.2E-2 [a] | - - - | - | -2.1 ± 1.6 | 2.0E-2 | - - - | - | - - - | - | - - - | - |
| | PE C**H**$_2$NH$_3$ | 3.16 (br) | - - - | - | - - - | - | -1.8 ± (1.5) | 1.6E-2 | - - - | - | - - - | - | -1.8 ± (1.6) | 2.8E-2 |
| | PTC/SM, N(C**H**$_3$)$_3$ | 3.29/3.31 (s) | 1.7 ± (1.4) | 3.2E-2 [a] | - - - | - | -1.6 ± (1.5) | 5.0E-2 | - - - | - | - - - | - | -1.7 ± (1.5) | 3.5E-2 |
| Triglycerides | Glyceryl C1, **3H** | 4.14 (dd) | - - - | - | - - - | - | - - - | - | - - - | - | - - - | - | 1.8 ± (1.6) | 2.9E-2 [b] |
| | Glyceryl C2**H** | 5.26 (m) | -1.8 ± (1.5) | 2.3E-2 [a] | - - - | - | 1.7 ± (1.5) | 4.3E-2 | - - - | - | - - - | - | - - - | - |
| Lipid ratios | (C**H**$_2$)$_n$/C**H**$_3$ | - | - - - | - | - - - | - | - - - | - | - - - | - | - - - | - | -1.6 ± (1.5) | 4.9E-2 [b] |
| | **H**C=C**H**/C**H**$_3$ | - | - - - | - | - - - | - | - - - | - | - - - | - | - - - | - | -1.7 ± (1.5) | 3.2E-2 [b] |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Unknowns | U1 | 0.82 (br) | - - - - | - - - - | - - - - | -3.0 ± 1.8 4.4E-2 [b] | - - - - | - - - - |
| | U2 | 2.38 (br) | - - - - | - - - - | - - - - | - - - - | - - - - | -1.8 ± (1.6) 3.1E-2 [b] |
| | U3 | 4.07 (br) | 1.9 ± (1.5) 1.9E-2 [a] | - - - - | - - - - | - - - - | - - - - | -1.6 ± (1.5) 3.9E-2 [b] |
| | U4 | 4.20 (dd) | - - - - | - - - - | - - - - | - - - - | 11.1 ± 5.0 1.7E-7 [a,b] | 2.7 ± 1.8 6.5E-3 [b] |
| | U5 | 4.69 (d) | - - - - | - - - - | - - - - | - - - - | - - - - | -2.7 ± 1.8 3.9E-3 [b] |
| | U6 | 5.90 (d) | - - - - | - - - - | -1.9 ± (1.6) 2.6E-2 | - - - - | - - - - | -1.9 ± (1.6) 2.3E-2 |
| | U7 | 7.88 (br) | 1.8 ± (1.5) 2.7E-2 [a] | - - - - | -3.1 ± 2.0 2.6E-3 [a] | - - - - | - - - - | -2.1 ± (1.6) 3.2E-2 |
| **LIVER** | | | | | | | | |
| Cholesterol | Free/ Esterified, C26**H**$_3$ | 0.86 (d) | - - - - | - - - - | 1.6 ± (1.5) 4.3E-2 | - - - - | - - - - | - - - - |
| | Free, C19**H**$_3$ | 1.01 (s) | - - - - | - - - - | - - - - | - - - - | 1.6 ± (1.4) 4.5E-2 [b] | - - - - |
| Fatty acids | C**H**$_3$ | 0.89 (br) | - - - - | - - - - | - - - - | - - - - | 2.0 ± 1.5 3.0E-2 [b] | - - - - |
| | (C**H**$_2$)$_n$ | 1.25 (br) | - - - - | - - - - | - - - - | - - - - | 2.1 ± 1.6 1.7E-2 [b] | - - - - |
| | 18:2/ 20:4 C**H**$_3$ | 0.98(t) | - - - - | - - - - | 2.4 ± 1.7 6.9E-3 [a] | - - - - | - - - - | - - - - |
| | 20:4 C**H**$_2$CH= | 2.07 (q) | -3.2 ± 2.0 1.9E-2 [a] | - - - - | - - - - | -2.2 ± 1.7 1.6E-2 [b] | - - - - | - - - - |
| | 20:4 =CHC**H**$_2$CH= | 2.81 (m) | -2.2 ± 1.7 1.7E-2 [a] | - - - - | - - - - | - - - - | - - - - | - - - - |
| | 20:4 **H**C=C**H** | 5.37 (m) | -2.4 ± 1.7 1.3E-2 [a] | - - - - | - - - - | -1.6 ± (1.5) 3.7E-2 | - - - - | - - - - |
| | 22:6 C**H**$_2$CO | 2.37 (br) | -2.2 ± 1.7 4.6E-2 | - - - - | 1.9 ± (1.6) 2.9E-2 | -1.9 ± (1.6) 4.1E-2 | - - - - | - - - - |
| **BREAST TISSUE** | | | | | | | | |
| Cholesterol | Free/ Esterified, C3**H** | 1.02 (s) | - - - - | -1.7 ± (1.4) 4.0E-2 [a] | - - - - | -1.8 ± (1.5) 3.2E-2 | - - - - | - - - - |
| Fatty Acids | C**H**$_3$ | 0.89 (br) | 1.7 ± (1.4) 3.0E-2 | - - - - | - - - - | - - - - | - - - - | - - - - |
| | (C**H**$_2$)$_n$ | 1.25 (br) | - - - - | -2.7 ± 1.7 4.7E-3 [a] | - - - - | - - - - | -1.7 ± (1.5) 3.0E-2 [a] | - - - - |
| | =CHC**H**$_2$(CH$_2$)$_n$ | 1.30 (br) | - - - - | 2.2 ± 1.6 1.2E-2 [a] | - - - - | - - - - | - - - - | - - - - |
| | C**H**$_2$CO | 2.30 (m) | - - - - | 1.8 ± (1.5) 3.2E-2 [a] | - - - - | - - - - | - - - - | - - - - |
| | 18:2, **H**C=C**H** | 5.34 (m) | - - - - | 2.9 ± 1.8 2.9E-3 [a] | - - - - | - - - - | 1.8 ± (1.5) 2.2E-2 [a] | - - - - |
| | 18:2, =CHC**H**$_2$CH= | 2.77 (t) | - - - - | 2.2 ± 1.6 8.1E-3 [a] | - - - - | - - - - | 1.6 ± (1.4) 1.6E-2 [a] | - - - - |
| | 20:4, **H**C=C**H** | 5.36 (m) | - - - - | 2.3 ± 1.6 6.9E-3 [a] | - - - - | - - - - | 1.7 ± (1.4) 3.3E-2 [a] | - - - - |
| | 20:4, C**H**$_2$CH= | 2.07 (q) | - - - - | 2.2 ± 1.6 8.8E-3 [a] | - - - - | - - - - | 1.5 ± (1.4) 4.7E-2 | - - - - |
| Triglycerides | Glyceryl C1, **3H** | 4.14 (dd) | - - - - | 1.7 ± (1.4) 3.9E-2 [a] | - - - - | - - - - | - - - - | - - - - |
| | Glyceryl C1, **3H'** | 4.29 (dd) | - - - - | 1.8 ± (1.5) 2.9E-2 [a] | - - - - | - - - - | - - - - | - - - - |
| | Glyceryl C2**H** | 5.26 (m) | - - - - | 4.4 ± 2.3 1.3E-4 [a] | - - - - | 1.5 ± (1.4) 4.8E-2 | 2.6 ± 1.7 4.3E-3 [a] | - - - - |
| Lipid ratios | (C**H**$_2$)$_n$/C**H**$_3$ | - | -1.7 ± (1.4) 4.5E-2 | -1.7 ± 1.4 2.9E-2 [a] | - - - - | - - - - | -2.1 ± 1.5 1.3E-2 [a] | - - - - |
| | **H**C=C**H**/C**H**$_3$ | - | -1.8 ± (1.5) 3.7E-2 | - - - - | - - - - | - - - - | -1.6 ± (1.4) 3.7E-2 [a] | - - - - |
| Unknows | U4 | 4.20 (dd) | - - - - | -5.0 ± 2.5 3.4E-4 [a] | -3.2 ± 2.0 2.3E-2 | -1.9 ± (1.5) 2.0E-2 [a] | -4.3 ± 2.3 8.1E-4 [a] | - - - - |

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| U8 | 2.17 (s) | 3.1 | ± | 1.8 | 1.5E-3 [a] | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| U9 | 3.60 (dd) | 3.0 | ± | 1.8 | 1.8E-3 [a] | -5.3 | ± | 2.6 | 3.0E-4 [a] | -6.6 | ± | 3.3 | 2.4E-3 [a] | -3.2 | ± | 1.9 | 2.3E-3 [a] | -5.1 | ± | 2.5 | 9.3E-4 [a] | -6.0 | ± | 3.1 | 1.3E-3 [a] |
| U10 | 3.64 (s) | - | - | - | - | -4.0 | ± | 2.1 | 4.3E-4 [a] | -4.0 | ± | 2.3 | 1.6E-2 | -2.3 | ± | 1.6 | 1.5E-2 [a] | -4.0 | ± | 2.1 | 2.4E-3 [a] | - | - | - | - |
| U11 | 4.38 (br) | - | - | - | - | -1.7 | ± | (1.4) | 3.8E-2 [a] | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |