



Figure S1. Supplementary experimental data. A: Cytotoxicity assessment of PCB2 via CCK-8 assay. B: Cytotoxicity evaluation of AML12 cells using CCK-8. C: Cell viability analysis of BELNs-treated AML12 cells. D: Combinatorial effects of CCl<sub>4</sub> and BELNs on AML12 viability. E: Preliminary serum transaminase profiles (ALT/AST) in CCl<sub>4</sub>-treated mice. F: Quantitative flow cytometry of oxidative stress parameters: left - BELNs treatment, right - PCB2 treatment. G: Preliminary mRNA expression of ferroptosis regulators (ALOX15, ACSL4, Nrf2, GPX4). H: In vivo imaging results in Heart, Liver, Spleen, Lung, Kidney, and Intestine. \* $p < 0.05$ , \*\* $p < 0.01$  and \*\*\* $p < 0.001$ .