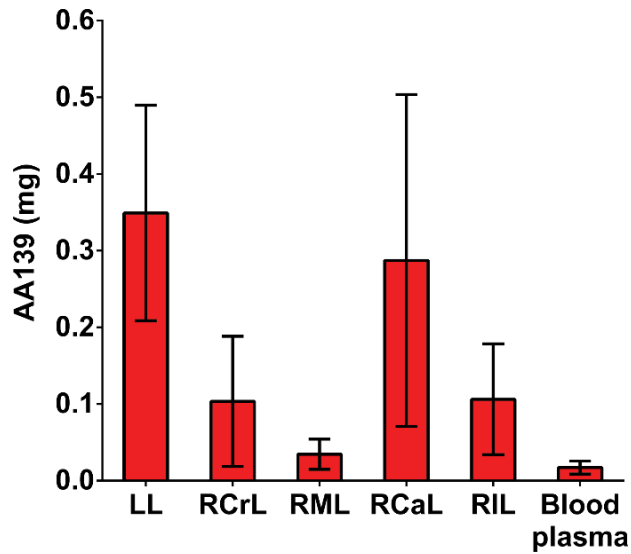
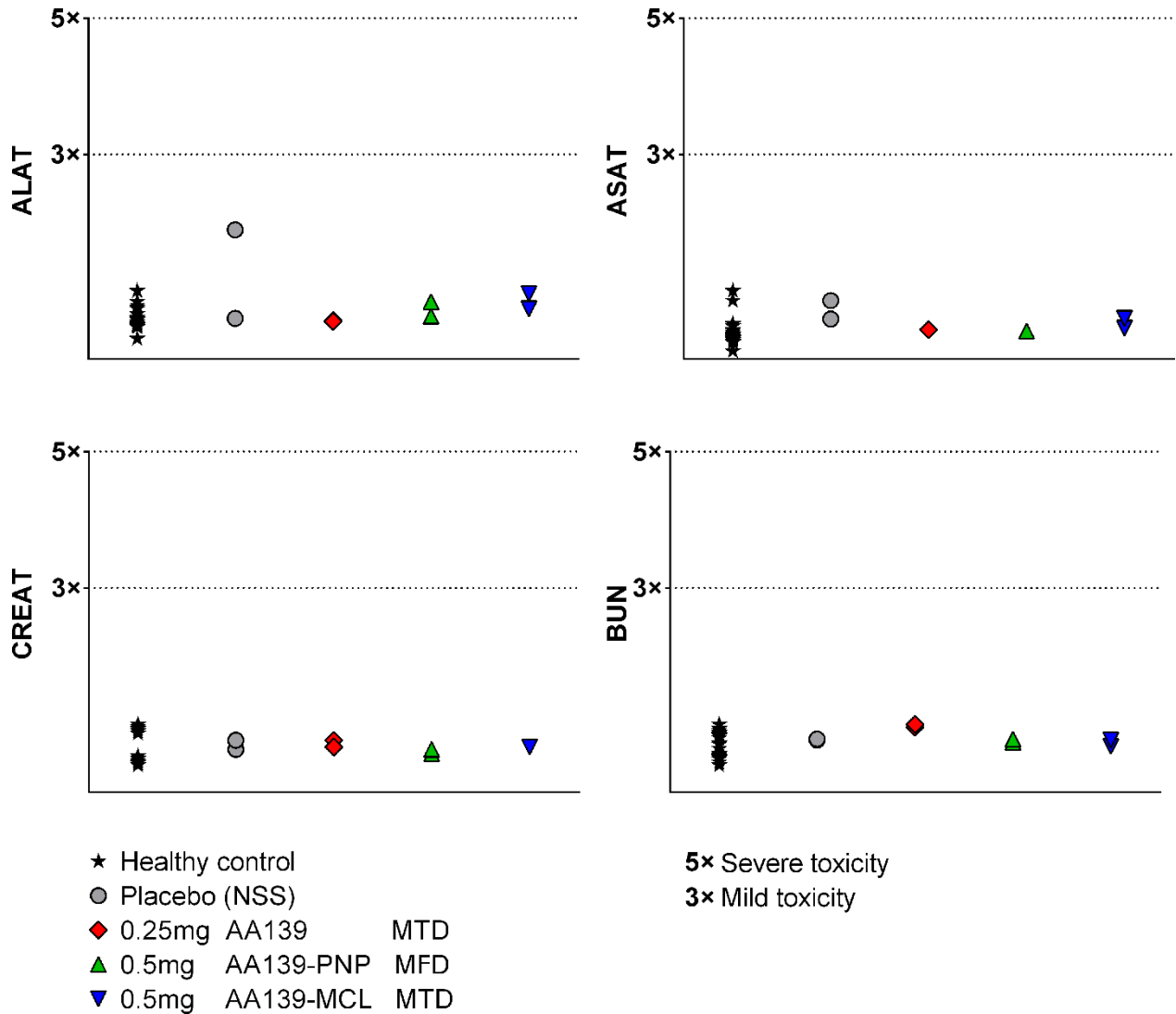


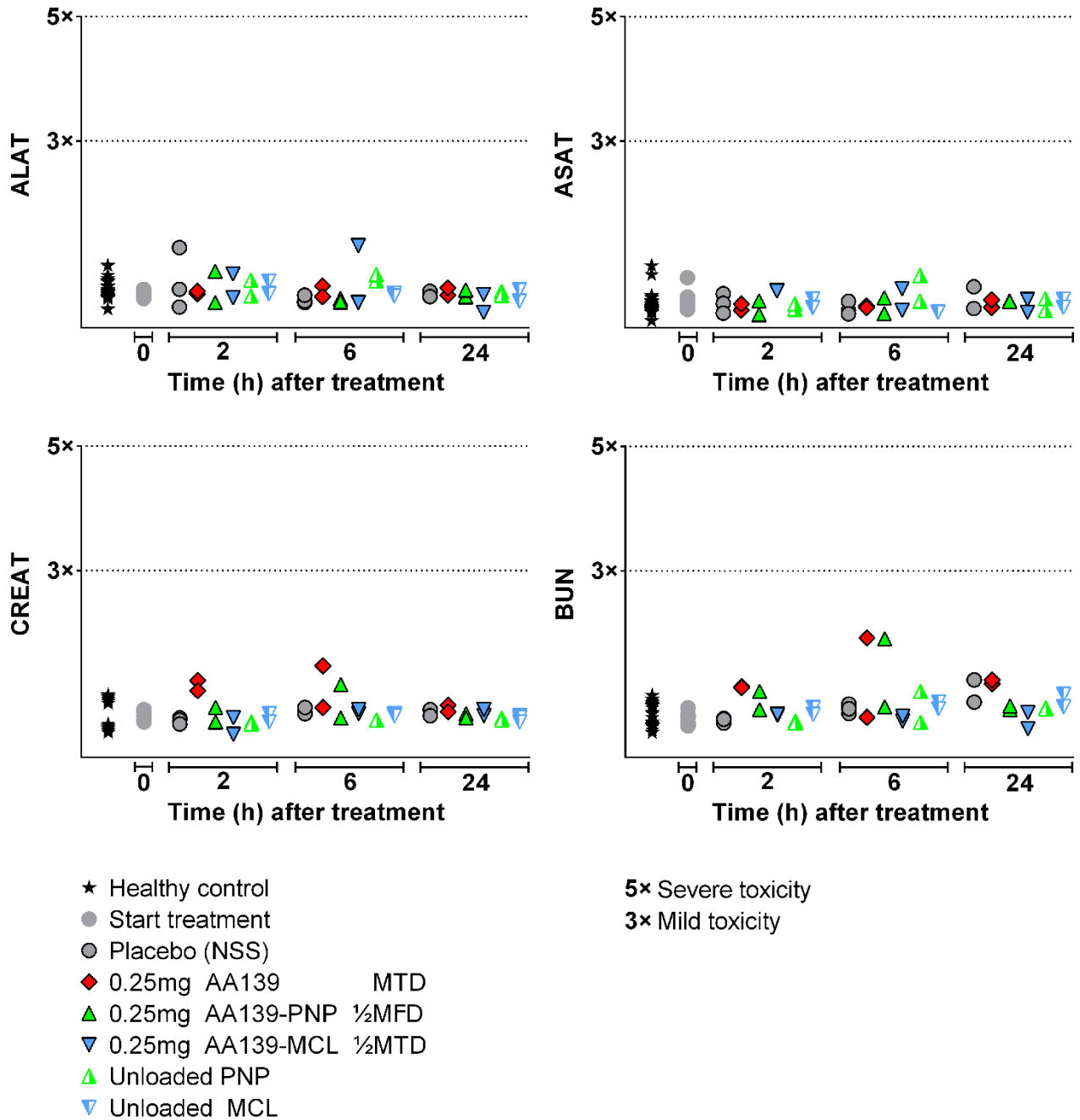
**Supplementary Figure S1.** Stability of radiolabelled AA139.  $[^{124}\text{I}]\text{AA139}$  was incubated in moderately acidic conditions (sodium acetate buffer at  $\text{pH} = 5.5$ ) and the percentage of unchanged  $[^{124}\text{I}]\text{AA139}$  was determined by high-performance liquid chromatography with radioactive detection (radio-HPLC). Experiments were performed in triplicate (mean  $\pm$  standard deviation).



**Supplementary Figure S2.** AA139 deposition in lungs and distribution to blood plasma of uninfected rats immediately after endotracheal aerosolization. 1 mg AA139 was administered to 6 rats which were immediately sacrificed after dosing. AA139 was measured in lung lobes and blood plasma by liquid chromatography with tandem mass spectrometric detection (LC-MS/MS) bioanalytical assay. Shown are the mean  $\pm$  standard deviation of total AA139 in rat lung lobes and total blood plasma volume (estimation based on body weight). LL, left lobe; RCrL, right cranial lobe; RML, right middle lobe; RCaL, right caudal lobe; RIL, right intermediate lobe.



**Supplementary Figure S3.** Biomarkers of acute toxicity in blood plasma of uninfected rats treated with a single dose of free AA139, AA139-PNP, or AA139-MCL. Each compound was administered at the limiting dose in 100  $\mu$ L by endotracheal aerosolization. Groups of 2 rats were sacrificed at 24 hours after administration. MTD, maximum tolerated dose; MFD, maximum feasible dose; AA139-PNP, polymeric nanoparticulate AA139; AA139-MCL, lipid-core micellar AA139; NSS, normal saline solution. ALAT, alanine aminotransferase; ASAT, aspartate aminotransferase; CREAT, creatinine; BUN, blood urea nitrogen.



**Supplementary Figure S4.** Biomarkers of acute toxicity in blood plasma of rats with extended-spectrum  $\beta$ -lactamase (ESBL)-producing *K. pneumoniae* pneumonia-septicemia treated with a single dose of free AA139, AA139-PNP, or AA139-MCL. Each compound was administered at 0.25 mg in 100  $\mu$ L by endotracheal aerosolization. Groups of 2 rats were sacrificed at 2 hours, 6 hours and 24 hours after administration, which was 24 hours after initiation of infection. MTD, maximum tolerated dose; MFD, maximum feasible dose; AA139-PNP, polymeric nanoparticulate AA139; AA139-MCL, lipid-core micellar AA139; NSS, normal saline solution. ALAT, alanine aminotransferase; ASAT, aspartate aminotransferase; CREAT, creatinine; BUN, blood urea nitrogen.