**Supplementary Movie 1.** Real-time intravital two-photon microscopy showing distribution of bisphosphonate in 4T1 breast tumour. 72µm maximal intensity projection showing collagen in the tumour capsule and blood vessels (blue), TAMs (green) and bisphosphonate (red). Time stamp in hh:mm:ss:00 shows time relative to injection of bisphosphonate.

**Supplementary Movie 2.** Real-time intravital two-photon microscopy showing distribution of bisphosphonate in normal breast tissue in the fourth inguinal mammary fat pad. 72µm maximal intensity projection showing collagen in the connective tissue and blood vessels (blue), TAMs (green) and bisphosphonate (red). Time stamp in hh:mm:ss:00 shows time relative to injection of bisphosphonate.

**Supplementary Movie 3.** Real-time intravital two-photon microscopy showing pinocytosis of bisphosphonate by a TAM. Single optical plane showing a TAM (green) internalising bisphosphonate (red) in small vesicles. Time stamp in hh:mm:ss:00 shows time relative to injection of bisphosphonate.

**Supplementary Movie 4.** Real-time intravital two-photon microscopy showing phagocytosis of a large, granular clump of bisphosphonate by a TAM. Single optical plane showing a TAM (green) engulfing and internalising a large, bisphosphonate-containing granule (red). Time stamp in hh:mm:ss:00 shows time relative to injection of bisphosphonate.

**Supplementary Movie 5.** 3D reconstruction of 4T1 mammary tumour 24 hours after injection of bisphosphonate. 150×425×425µm volume showing tumour capsule (blue), TAMs (green) and bisphosphonate (red).