

### Supplemental Figure Legends

Supplemental Figure 1. Typical input-output (IO) curves for EPSP slopes generated from 6 different stimuli. Black circles represent responses obtained before HFS whereas open circles represent responses 60 min after HFS. Arrows show procedures to calculate changes following HFS: From 100% maximal points, 50% amplitude (a) is determined and then corresponding amplitude obtained 60 min after HFS (a+b) is found. "b" indicates the increase and " $b/(a+b) \times 100\%$ " represents LTP magnitude.

Supplemental Figure 2. Preincubation of slices with glyphosate at 1  $\mu$ M but not 0.1  $\mu$ M interrupts LTP induction. A. HFS induces LTP in slices pretreated with 0.1  $\mu$ M glyphosate (gray circles) but failed to induce LTP in slices pretreated with 1  $\mu$ M glyphosate (black circles). B. LTP summary.

Supplemental Figure 3. Body weight changes one day after injection of glyphosate. This figure corresponds to Figure 6.