



Supp. Figure 3 Schematic of the waterpipe setting for the mouse exposure experiments. The Batelle laboratory-grade waterpipe: waterpipe head(a), stainless steel body and body stem(b), and a 2 L Pyrex Erlenmeyer flask(c). The exposure system requires the programmable peristaltic pump(d) Cole-Parmer MasterFlex I/P model 77420-20 (0.1 -650 RPM, 0.34 HP), with the head model high-performance 77600-62. Exposure mechanism: mixing chamber(e) uses a 4 L Pyrex Erlenmeyer flask, the mouse nose-only exposure chamber(f) model Jaeger-Baumgartner, an air pump(g) GAST oilless diaphragm compressor model DOA-P704-AA, and a HEPA capsule filter(h) PALL model PN 12144, 1.2 μm Versapor. The total suspended particle (TSP) collection system consists of a filter pad holder(i) and a programmable peristaltic pump(j) Cole-Parmer MasterFlex I/P model 07522-20 (0.1-600 RPM, 0.1 HP) with head model easy-load II 77200-62.