## **Description of Additional Supplementary Files**

File Name: Supplementary Movie 1

Description: Volumetric image stack from 40  $\mu m$  to 115  $\mu m$  below the surface. Recording frame rate:

0.5 f.p.s. Playback at 30 f.p.s. Data correspond to Fig. 2f-h.

File Name: Supplementary Movie 2

Description: Neutrophil slow rolling along the vessel wall. Recording duration:15 min. Recording

frame rate: 0.5 f.p.s. Playback at 30 f.p.s. Data correspond to Fig. 3a.

File Name: Supplementary Movie 3

Description: Leukocyte adhering to and crawling along the vessel wall. Recording duration: 27 min.

Recording frame rate: 0.5 f.p.s. Playback at 30 f.p.s. Data correspond to Fig. 3b.

File Name: Supplementary Movie 4

Description: Leukocyte swarming (raw data). Recording duration: 70 min. Recording frame rate: 0.5

f.p.s. Playback at 100 f.p.s. Data correspond to Fig. 4.

File Name: Supplementary Movie 5

Description: Leukocyte swarming with traces (after smoothing). Recording duration: 70 min.

Recording frame rate: 0.5 f.p.s. Playback at 100 f.p.s. Data correspond to Fig. 4