## Supplementary Material

Supplementary Figure S1. The representative images for each clinical arthritic scores of CIA mice.

Score	Forepaw	Hindpaw
0	67	
1		
2		
3	12 13	
4		6

**Supplementary Figure S2.** Correlation of accumulation levels in the paws (A) between  ${}^{99m}$ Tc(CO)<sub>3</sub>-DCM20 and  ${}^{18}$ F-FDG and (B) between  ${}^{67}$ Cu-ATSM and  ${}^{18}$ F-FDG.





**Supplementary Figure S3.** Representative PET image of (a)  $^{64}$ Cu-ATSM and (b)  $^{18}$ F-FDG at 1 h post-injection in CIA mice. PET scanning in list mode was performed at 1 h after injection of each tracer using an animal PET scanner (Inveon, Siemens, Knoxville, TN) with a 10 min acquisition time under isoflurane anesthesia. The list mode data were reconstructed using an iterative OSEM3D/MAP procedure with the matrix size  $128 \times 128 \times 159$ , including attenuation correction. MaxSUV was determined by placing the region of interest (ROI) on the forepaw using an Inveon Research Workplace workstation (Siemens). Red circle, right forepaw; L, liver; H, heart; B, bladder.

