Supporting Information

Aptamer-Targeting Photoresponsive Drug Delivery System Using "Off-On" Graphene Oxide Wrapped Mesoporous Silica Nanoparticles

Yuxia Tang,^{ab} Hao Hu,^b Molly Gu Zhang,^b Jibin Song,^b Liming Nie,^c Shouju Wang,^a Gang Niu,^b Peng Huang,^{*b} Guangming Lu,^{*a} and Xiaoyuan Chen^{*b}

^a Department of Medical Imaging, Jinling Hospital, School of Medicine, Nanjing University, Nanjing 210002, P.R. China

^b Laboratory of Molecular Imaging and Nanomedicine (LOMIN), National Institute of Biomedical Imaging and Bioengineering (NIBIB), National Institutes of Health, Bethesda, Maryland 20892, United States ^cState Key Laboratory of Molecular Vaccinology and Molecular Diagnostics, Center for Molecular Imaging and Translational Medicine, School of Public Health, Xiamen University, Xiamen, P.R. China



Figure S1. Size change of GO with different sonication time.



Figure S2. Hydrodynamic size of MSN-Dox@GO with different aging time.



Figure S3. Zeta potential of MSN-Dox@GO with different aging time.



Figure S4. Fluorescence emission spectra of Free Dox, MSN-Dox and MSN-Dox@GO.



Figure S5. The photothermal effects of MSN-Dox@GO and MSN-Dox with different doses of NIR laser irradiation.



Figure S6. TEM image of MSN-Dox@GO after laser irradiation. The white arrow indicates MSN.



Figure S7. Fluorescence emission spectra of Cy5.5-AS1411, supernatant, and MSN-Dox@GO-Apt.



Figure S8. Fluorescence emission spectra of MSN-Dox@GO-Apt with different aging time.



Figure S9 Fluorescence images of MCF-7 cells incubated with MSN-Dox@GO-Apt at different time points, blue color: Cy5.5-Apt. Scale bar is 20 µm.



Figure S10 Fluorescence images of 293T cells incubated with MSN-Dox@GO-Apt at different time points.



Figure S11. Cell cytotoxicity of GO on human breast cancer MCF-7 cells.