Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

Dendrimer Conjugates for Light-activated Delivery of Antisense Oligonucleotides

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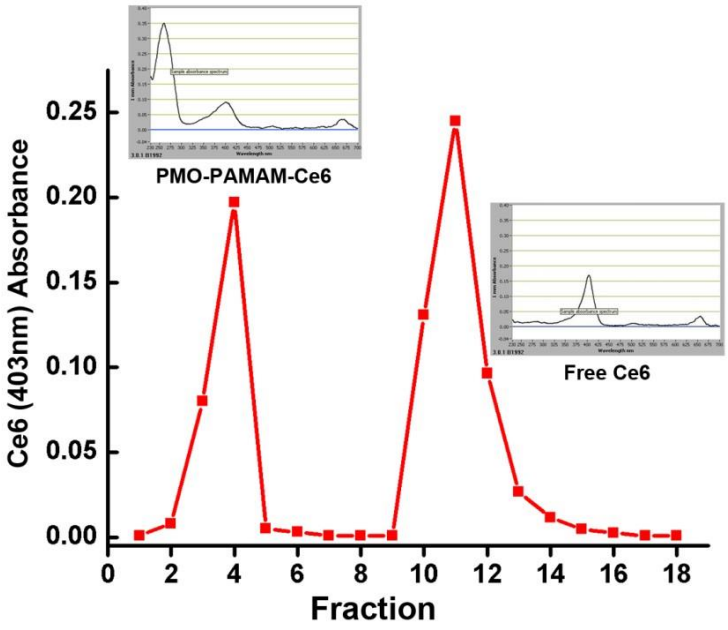

Figure S1: Purification of PMO-PAMAM-Ce6 from unreacted Ce6 by LH-20. Insets were absorption spectrum of PMO-PAMAM-Ce6 and free Ce6.

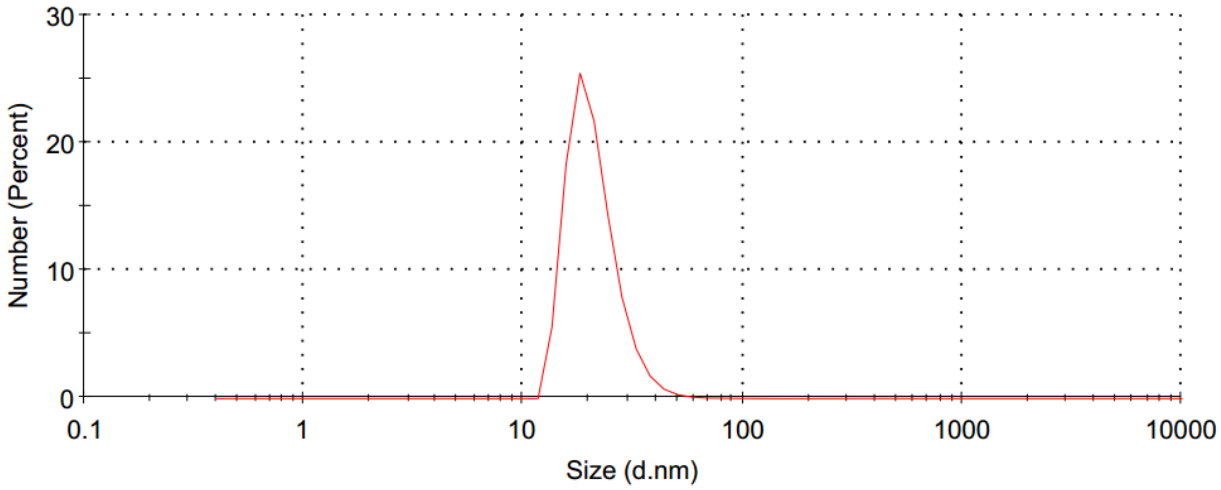

Figure S2: Size distribution of PMO-PAMAM-Ce6 conjugates.

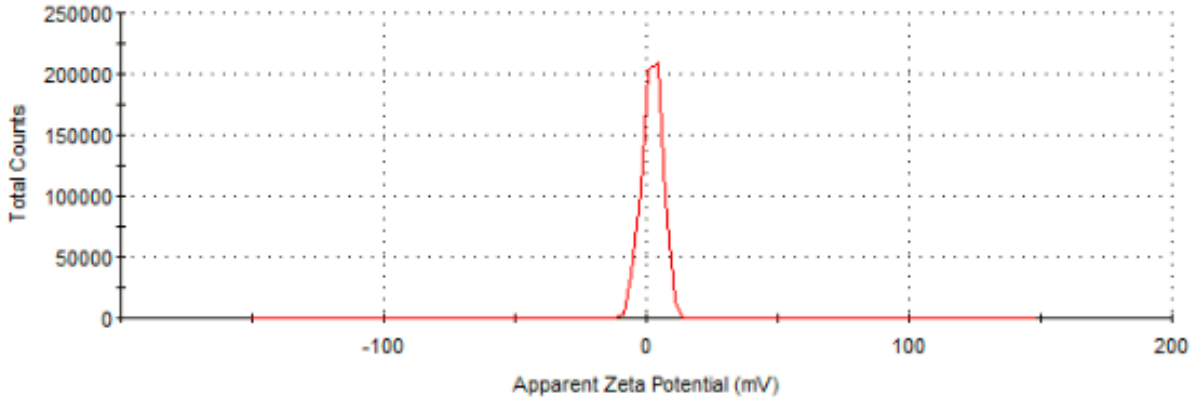

Figure S3: Zeta potential of PMO-PAMAM-Ce6 conjugates.

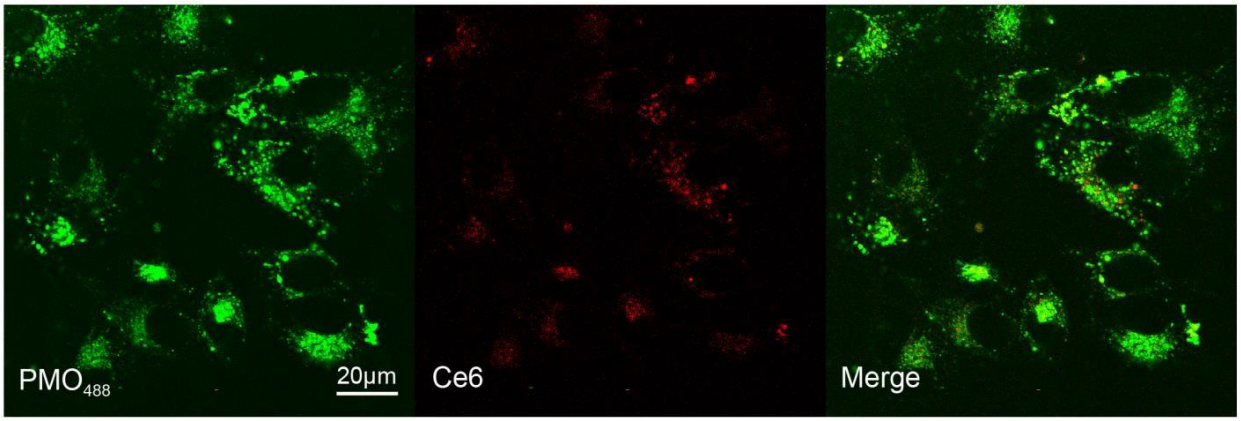

Figure S4: Partial colocalization of PMO_{488}-PAMAM with free Ce6 (5μM) in A375 melanoma cells. Scale bars, 20μm.

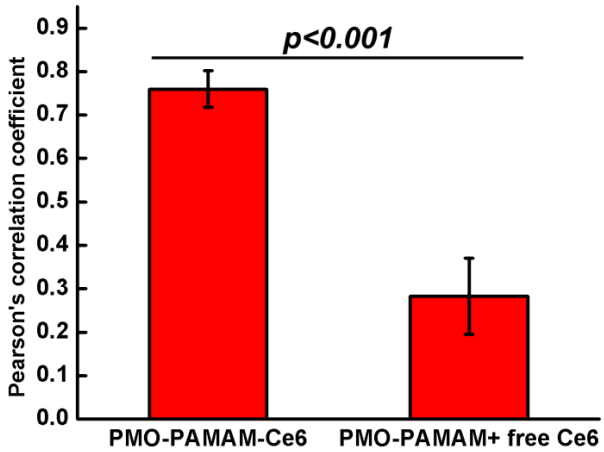

Figure S5: Quantification of Pearson's correlation coefficient between PMO_{488} and Ce6, in PMO_{488}-PAMAM-Ce6 and PMO_{488}-PAMAM with free Ce6 groups. Each group contains ten of A375 melanoma cells. The data was depicted as mean ± SD, n=10. The *p* value was calculated according to Student's Test.

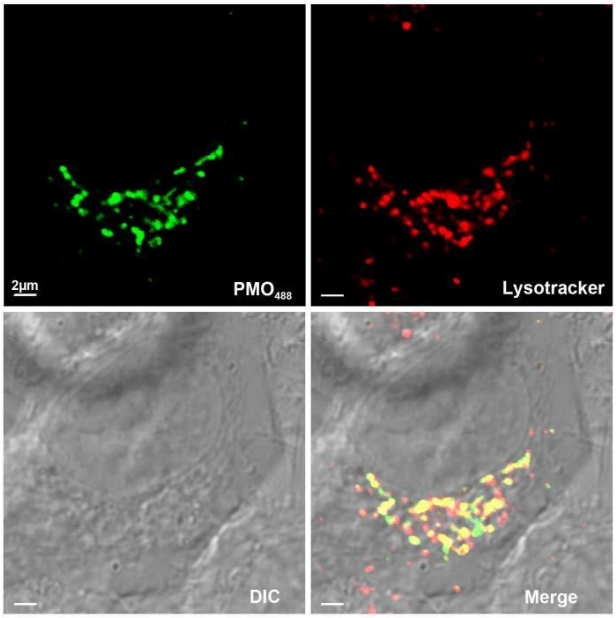

Figure S6: CLSM images of subcellular localization of PMO_{488}-PAMAM-Ce6 in A375 melanoma cells. Green: PMO_{488}; Red: Lysotracker Red; and the yellow pixel in the merged image indicate colocalization between PMO_{488} and Lysotracker Red. Scale bars, 2μm.

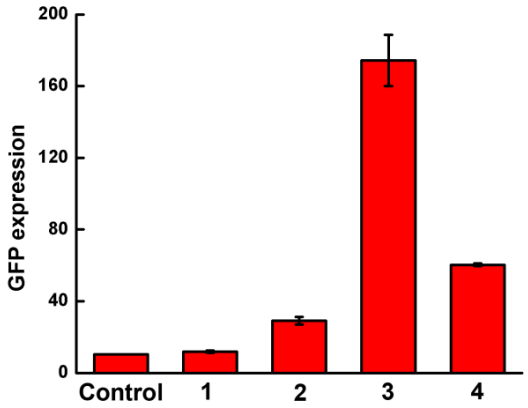

Figure S7: Quantification of the induced eGFP expression of A375/eGFP654 cells treated by Control, (1) Free PMO, (2) PMO-PAMAM-Ce6, (3) PMO-PAMAM-Ce6 with Photo-irradiation, and (4) Lipofectamine 2000(L2K) complexes of negatively charged PS oligonucleotides. The data was depicted as mean ± SD, n=3 (three wells of cells in in single experiment).

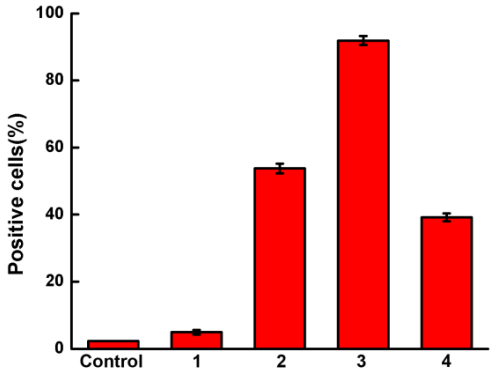

Figure S8: Percentage of eGFP positive cells were induced by Control, (1) Free PMO, (2) PMO-PAMAM-Ce6, (3) PMO-PAMAM-Ce6 with Photo-irradiation, and (4) Lipofectamine 2000(L2K) complexes of negatively charged PS oligonucleotides. The data was depicted as mean ± SD, n=3 (three wells of cells in in single experiment).

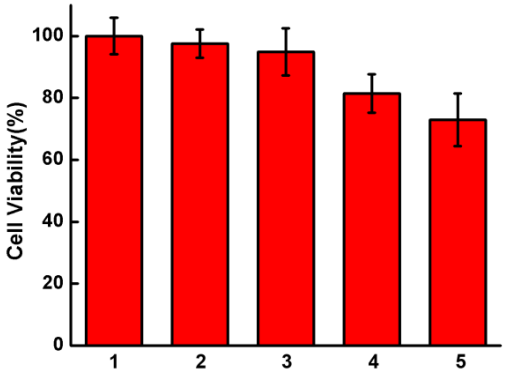

Figure S9: Cell viability of (1) Control, (2) Free PMO, (3) PMO-PAMAM-Ce6, (4) PMO-PAMAM-Ce6 with 20 min Photo-irradiation, and (5) Lipofectamine 2000(L2K) complexes of negatively charged PS oligonucleotides. The data was depicted as mean ± SD, n=3 (three wells of cells in in single experiment).

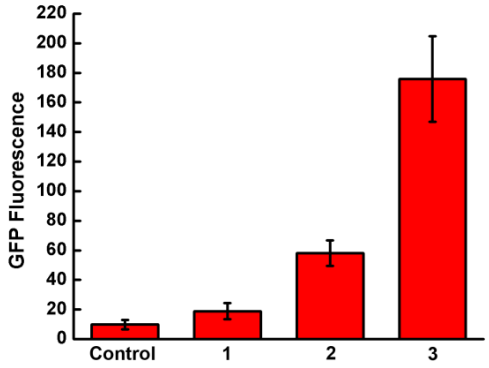

Figure S10: eGFP expression induced by different concentration of PMO-PAMAM-Ce6 followed by 20min photo-irradiation. Cells without any treatment were set as control. (1) PMO-PAMAM-Ce6, 12.5nM of Ce6; (2) 25nM of Ce6; and (3) 50nM of Ce6. The data was depicted as mean ± SD, n=3 (three wells of cells in in single experiment).

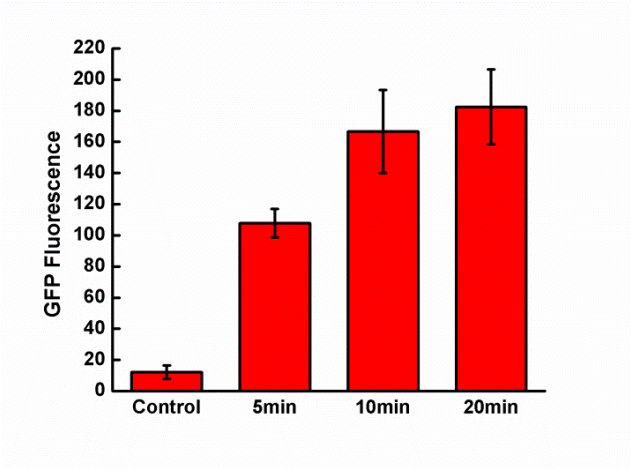

Figure S11: eGFP expression induced by PMO-PAMAM-Ce6 (50nM of Ce6), followed by 5, 10 and 20min photo-irradiation, respectively. Cells without any treatment were set as control. The data was depicted as mean ± SD, n=3 (three wells of cells in in single experiment).