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Photo-activated drug delivery systems

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Abbreviations

A	Alanine
CD	Circular dichroism
CPE	Cholesterol-PEG ₁₂ -(EIAAIEL) ₃
CPK	Cholesterol-PEG ₁₂ -(KIAALKE) ₃
DCM	Dichloromethane
DDT	Dithiothreitol
DEA	Diethanolamine
DIPEA	N,N-Diisopropylethylamine
DMAP	4-Dimethylaminopyridine
DOPC	1,2-dioleoyl-sn-glycero-3-phosphocholine
DOPE	1,2-dioleoyl-sn-glycero-3-phosphoethanolamine
DOPE-LR	1,2- dioleoyl-sn-glycero-3-phosphoethanolamine- N-(lissamine rhodamine B sulfonyl)
DOPE-NBD	1,2-dioleoyl-sn-glycero-3- phosphoethanolamine- N-(7-nitro-2-1,3-benzoxadiazol-4-yl)
DOPE-Atto633	1,2-dioleoyl-sn-glycero-3-phosphoethanolamine- ATTO633
DOPG	1,2-dioleoyl-sn-glycero-3-phospho-(1'-rac-glycerol) (sodium salt)
DOTAP	1,2-dioleoyl-3-trimethylammonium -propane (chloride salt)
DSPC	1,2-distearoyl-sn-glycero-3-phosphocholine
DSPE	1,2-Distearoyl-sn-glycero-3-phosphoethanolamine
E	Glutamate
EDCI	1-Ethyl-3-(3-dimethylaminopropyl)carbodiimide
EDC·HCl	N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride
ELSD	Evaporative light scattering detector
Et₃N	Triethylamine
F	Phenylalanine
FACS	Fluorescence-activated cell sorting
FCS	Fetal Calf Serum
G	Glycine
HCTU	2- (6-chloro-1 H -benzotriazole-1-yl) -1,1,3,3-tetramethylaminium

	hexafluorophosphate
HEPES	4-(2-hydroxyethyl)-1-piperazineethanesulfonic acid
HPLC	High-performance liquid chromatography
I	Isoleucine
IC₅₀	Half maximal inhibitory concentration
K	Lysine
L	Leucine
LED	Light-emitting diode
MeCN	Acetonitrile
NaBH₄	Sodium borohydride
NMR	Nuclear Magnetic Resonance spectroscopy
OND	Oligodeoxynucleotide
P	Proline
PDI	Polydispersity Index
PBS	Phosphate buffered saline
PEG	Polyethylene glycol
PEI	Polyethylenimine
PLL	Poly-L-lysine
POPC	1-palmitoyl-2-oleoyl-sn-glycero-3-phosphocholine
Q	Glutamine
R	Arginine
SEC	Size exclusion chromatography
SR-B	Sulforhodamine B
tBuOH	Tert-Butanol
TEM	Transmission electron microscope
TFA	Trifluoroacetic acid
UV	Ultraviolet
V	Valine
vlcFAs	Very long chain fatty acids
W	Tryptophan

Curriculum Vitae

Li Kong was born on 16th October 1986 in Qufu City, Shandong Province, China. She attended the Qufu No.1 Middle school, where she obtained her high school diploma in 2005. In the same year she started her study program of Chemistry in Shandong University and obtained her BSc degree in 2009 under supervision of Prof. Jingcheng Hao. After that, she was recommended to continue her master study in Organic Chemistry, Shandong University, under supervising of Pro. Aiyu Hao. Her research focused on cyclodextrin-based organogel and received her MSc degree in 2012. At the same time, she was awarded a research scholarship from Chinese Scholarship Council. With this grant, she joined as a PhD candidate the Supramolecular & Biomaterials Chemistry group in the Leiden Institute of Chemistry, Leiden University, under supervision of Prof. dr. Alexander Kros and Dr. Frederick Campbell. Her research, photo-activated drug delivery systems, is described in this thesis. From October 2017, Li continued her research as a post-doctoral-researcher in the same group. Her current research concerns the study of dendritic cell targeting liposomes in skin using microneedles.

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F. Zhang, ‡ **Li Kong**, ‡ D. Liu, W. Li, E. Mäkilä, A. Correia, R. Lindgren, J. Salonen, J. J. Hirvonen, H. Zhang, A. Kros, H. A. Santos, "Transformable Delivery System by Photo-Triggered Zwitterization with Dual-Antifouling Surface for Cell Recognition", *Advanced therapeutics*, 2018, accepted.

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