

# Supporting Information

## Cationic polymers as transfection reagents for nucleic acid delivery

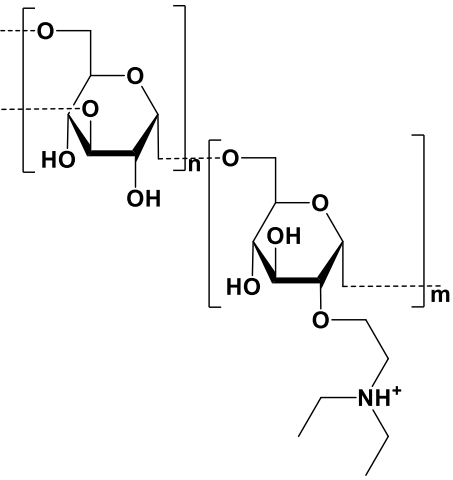
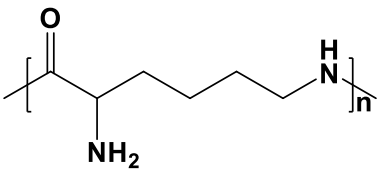
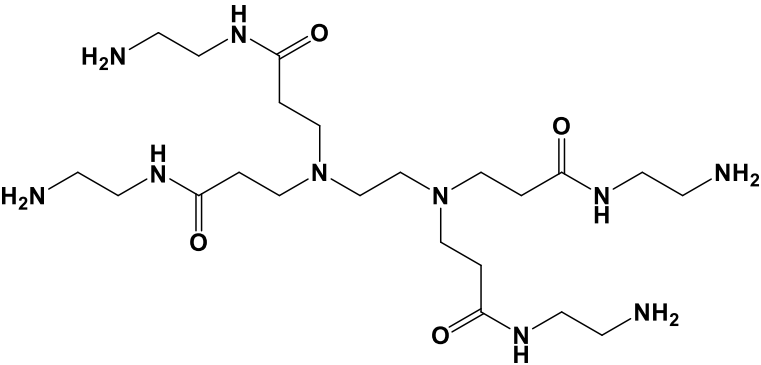
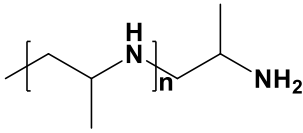
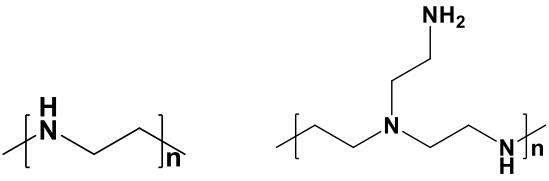
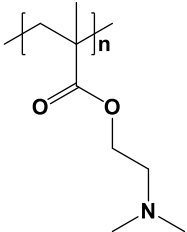
Xiaomeng Cai<sup>1</sup>, Rui Dou<sup>1</sup>, Chen Guo<sup>1</sup>, Jiaruo Tang<sup>1</sup>, Xiajuan Li<sup>2</sup>, Jun Chen<sup>1,\*</sup>, Jiayu Zhang<sup>1,\*</sup>

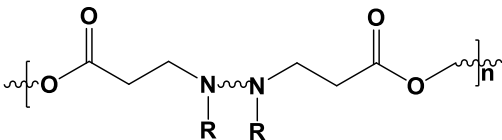
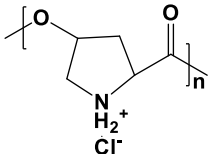
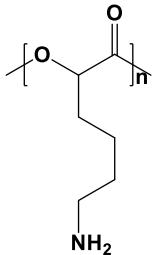
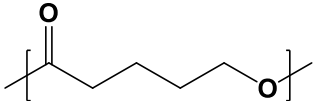
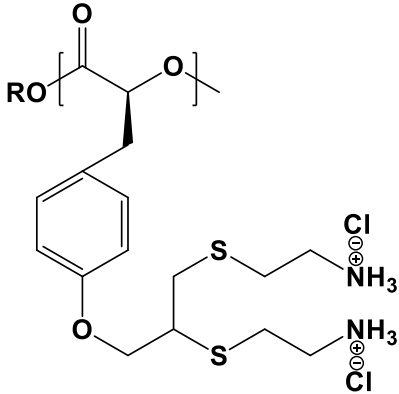
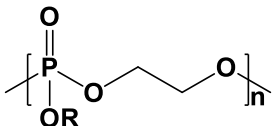
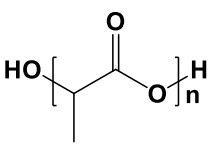
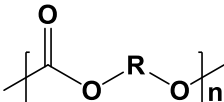
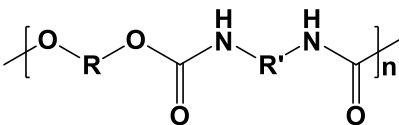
1 CAS Key Laboratory for Biomedical Effects of Nanomaterials and Nanosafety, Multi-disciplinary Research Division, Institute of High Energy Physics and University of Chinese Academy of Sciences (UCAS), Chinese Academy of Sciences (CAS), Beijing 100049, China

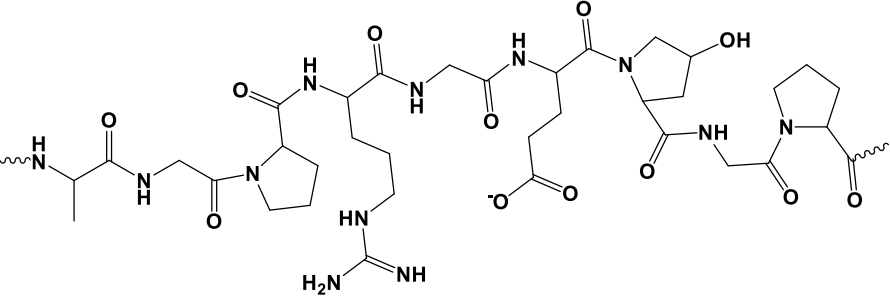
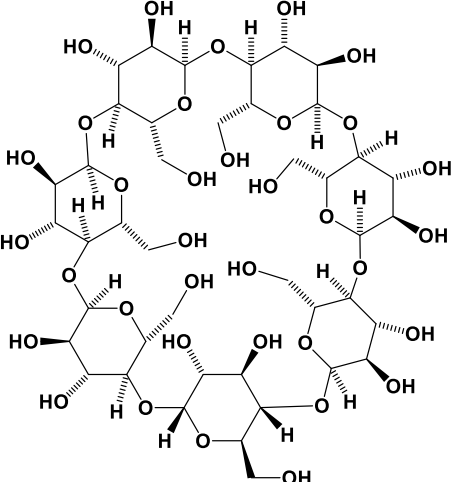
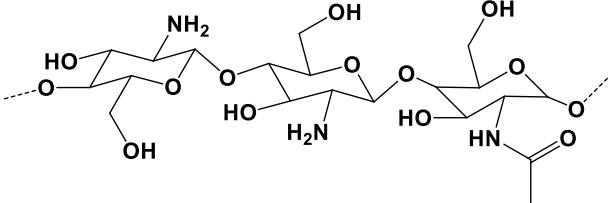
2 Beijing Institute of Genomics, Chinese Academy of Sciences (CAS), China National Center for Bioinformation, Beijing 100101, China

\* Correspondence: chenjun@ihep.ac.cn (J.C.); zhangjy86@ihep.ac.cn (J.Z.)

**Table S1.** Chemical structures of different cationic polymers.

<p><b>DEAE-dextran</b></p>	
<p><b>Poly-amino acid</b></p>	
<p><b>PAMAM</b></p>	
<p><b>PPI</b></p>	
<p><b>PEI</b></p>	
<p><b>PDMAEMA</b></p>	

PBAE	
PHP	
PAGA	
PVL	
Aminated PAHA	
PPE	
Poly lactide	
Poly carbonate	
Polyurethane	
Histone	N/A

Gelatin	
Protamine	N/A
Cyclodextrins	
Chitosan	

**Table S2.** Clinical trials with cationic polymers.

<b>Cationic polymers</b>	<b>Condition</b>	<b>Nuclei acids</b>	<b>Number</b>	<b>State</b>
PEI	Relapsed Neuroblastoma	DNA	NCT04049864	Recruiting
	Advanced Solid Tumors	MK-4621	NCT03739138	Terminated
	Pancreatic Adenocarcinoma	DNA	NCT01274455	Completed
	Cutaneous Squamous Cell Carcinoma Basal Cell Carcinoma	DNA	NCT04925713	Completed
	Merkel Cell Carcinoma Cutaneous Squamous Cell Carcinoma Non-Melanoma Skin Cancers	DNA	NCT04160065	Recruiting
	Cutaneous Melanoma, Stage III Cutaneous Melanoma, Stage IV Merkel Cell Carcinoma Cutaneous Squamous Cell Carcinoma	DNA	NCT04853602	Available
	Pancreatic Adenocarcinoma	DNA	NCT02806687	Completed
	Malignant Melanoma	mRNA	NCT00204607	Completed
	Prostate Cancer	mRNA	NCT01817738	Terminated
	Rabies	mRNA	NCT02241135	Completed
Protamine	Non-Small Cell Lung Cancer	mRNA	NCT00923312	Completed
	Non-Small Cell Lung Carcinoma	mRNA	NCT01915524	Terminated
	Hormone-refractory prostate cancer	mRNA	EudraCT-2008-003967-37	Completed