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: 010- 68941797

: 13581939692

: shaozi qi ang@263. net

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: 010- 68913536

: 13910127798

: li uzd@b i t. edu. cn

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					13581939692		shaozi qi ang@263. net		
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		2015	12	730. 0000		1	80. 0000	9	257. 5000
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2 PCT Patent Cooperation Treaty

PCT

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SCI (SSCI) EI

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2015 2017

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2015 1 -- 2017 12

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5th EPNCE International Polysaccharide

Conference

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2015 -- 2017

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500 /

CMC CMC K CMC NH4
CMC

2016 -2017 CMC K CMC NH4 CMC NH4 NO2 CMC
Ci
500 / CMC K CMC NH4 CMC NH4 NO2
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CMC NH4

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30 / NGEC

NGEC

NGEC

6.95 108 6.2 600
332 9.05 144

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NGEC

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3 II 201

7 Bi tNC-I 1/4 550nm

0.01° 20min

NC ?0.05% 2018 204

375 245

4 2

4 2016 3

CNCN 1000g/ 1

—CNCN 2 CNCN 3 CNCN

1000g/ 4 CNCN

4 1 7

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5

2016

2018 2 CNCN CNFs

2018

10

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3D

6

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a-

93%

8000~10000

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200

3D

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1

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2

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3

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1000 /

300 /

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300

27 KW

1/4-1/5

1/3-1/4

30 /

9000

4.

(1)

2015 -2017

9

50

500-1000

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1000 /

300 /
300

60 /

1000

27 KW

1/4-1/5

1/3-1/4

30 /

9000

500 /

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CMCAB

CMCN

CMCAB 200g/

CMCN

, 1000g/

CMCAB CMCN

40% 55%

2015-2017

CMC# CNFs

CMC# CNFs

7

9

1

2016

" 2

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3D

201

5 - 2017

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70%

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0.5A/g

400.84F/g

1D

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657.7F/g 0.5

mV/cm²

45.7μ Vh/cm²

8.56 nW/cm²

98%

50%

MS2

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0.75A/g

588.48 F/g

2.5 A/g

2000

98.1%

5-2017

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B6

Hummers

252

32

B6

0.5-200 ?M

B6

10⁻⁷ M

B6

Cu(OH)₂

Cu(OH)₂

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Cu(OH)₂

0.1-150uM

10⁻⁷M

30

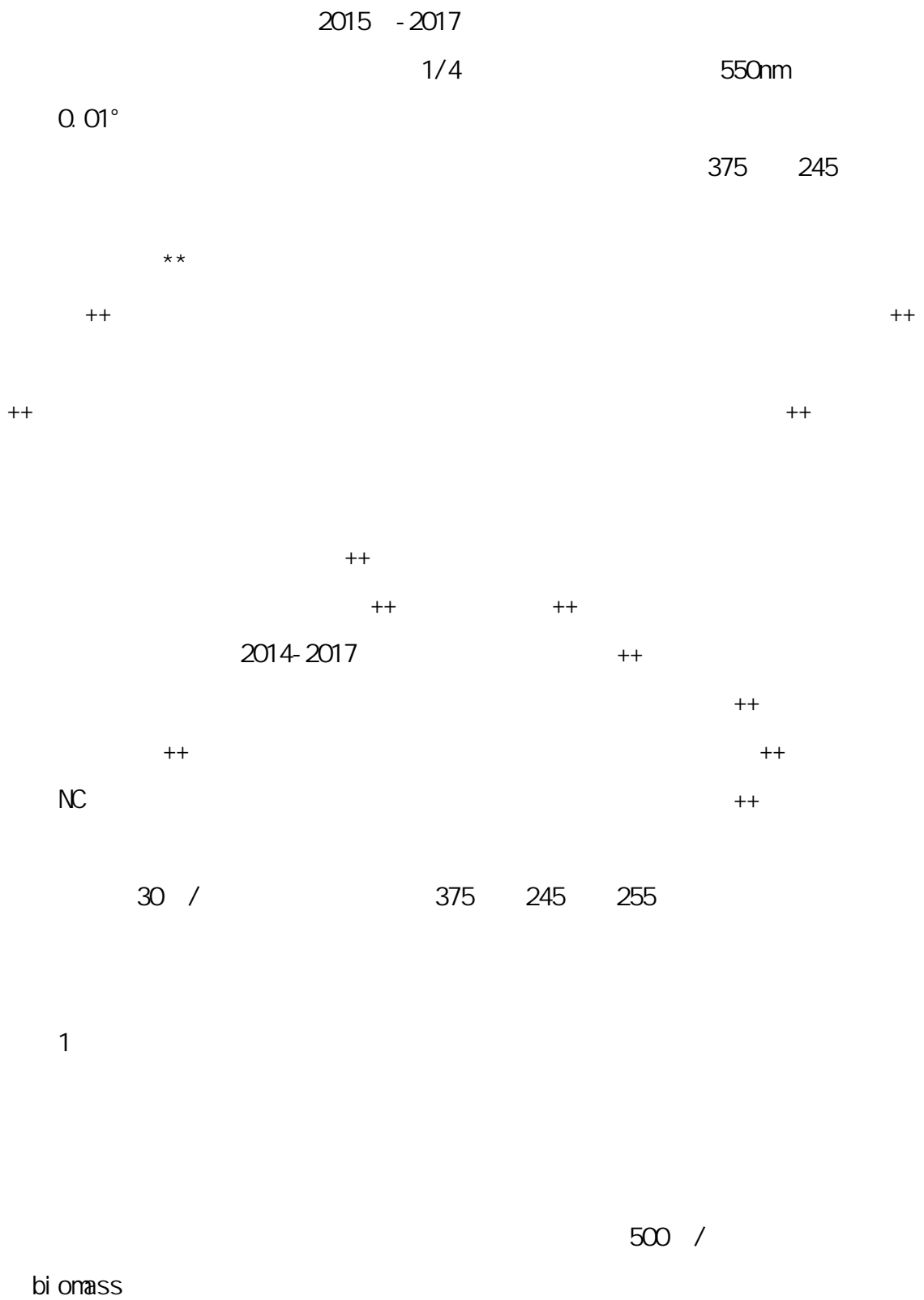
CdS

CdS /

0.05-

2.00 μ M

10⁻⁸ M



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CMC CMC K CMC NH4
CMC

2016 -2017

CMCK CMCNH4 CMCNH

4NO2 CMC i

500 / CMCK CMCNH4 CMCNH4NO2

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2015-2017

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Michael

2 71

CH3NH3PbBr 3

N, N-

CH3NH3PbBr 3

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2, 2', 6, 6'

- 1 -

CH3NH3PbBr 3

25nm

CH3NH3PbBr 3

DMF/THF

CTA

8-10 w

t%

0.005-0.010 ml/min

+25 kV

- 5

kV

1000 r/min-1500 r/min

CH3NH3Pb

Br 3

0.31

(2)

2015-2017

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 Nano-materials

Recent Development of Cellulose

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Giovanni Carino " Nanocel I

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4 <http://www.bitcellulose.com/>

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Thomas Hei nze
Giovanni Cami no
" Nanocel l ul ose and Fl ame Retardancy" 2016 12 14

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2015 - 2017

a- 90%

2017

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			CNFs		Cu ²⁺	pH
		CNFs/Cu ²⁺				CNFs
CuCl ₂	GO	CNFs/Cu ²⁺ /GO	HCl	Cu ²⁺	CNFs/GO	
H		CNFs/RGO	SCI	10	4	

a-

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g

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6 CNFs

7 CRGPP-10

8 S-RGPP

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1

CMC

GDP

6.5%

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CMC

10000

CMC

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CMC

CMC

JS

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CMC

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2017 3

The University of Tennessee

" Recent Development of Cellulose Nano-materials"

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ACC

ACC

CNF

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CNF

Sappi Biotech CelluForce Borregaard AS Alberta

Innovates

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5th EPNCE International Polysacchar

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<http://www.bi tcell ul ose. com>

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2017	Super (1220/750)		M&K-160E	
b-1A-50	BPS-50CL	nano debee	UPW10N	La

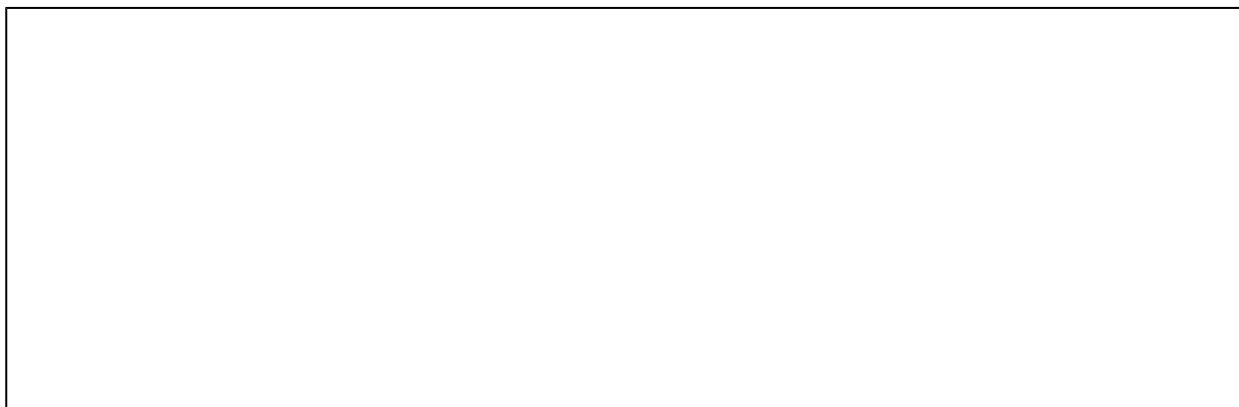
GPC
115

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2015 2017

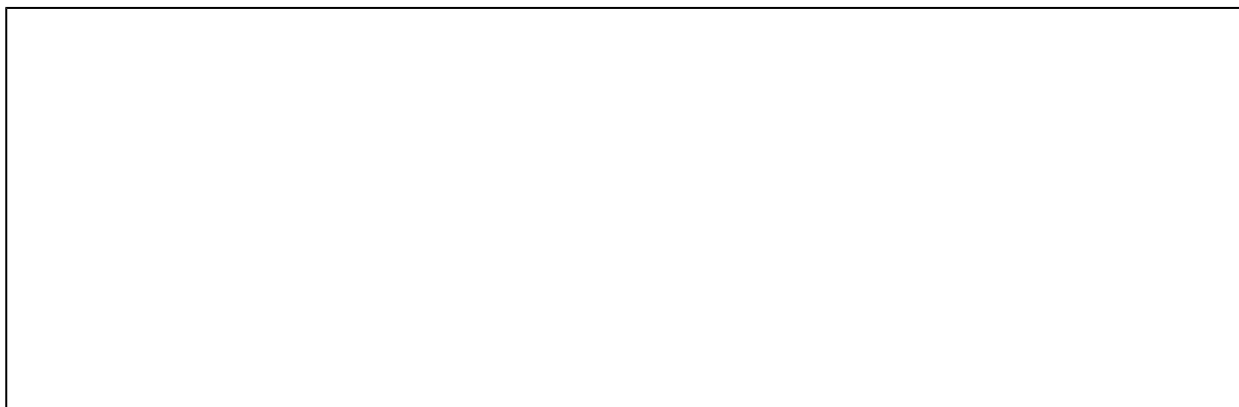
20

(10)	2015- 2017	9
(45)		43
(25)		23
(20)		19
		94



2015

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1	### ###		2015	100.0		B
2	###		2015	30.0		A
3	###		2015	30.0		B
4	###		2015	10.0		A
5	##		2015	190.0		B
6	###		2015	5.0		A
7	### ###		2016	200.0		A
8	###		2016	150.0		B
9			2016	100.0		B
10	### ###		2016	50.0		A

11	###	###	2016	50.0		B
12	###		2016	22.0		B
13		###	2016	5.0		A
14	###	###	2015	100.0		B
15		###	2015	30.0		A
16	###		2015	30.0		B
17	###		2015	10.0		A
18	##		2015	190.0		B
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20	###	###	2016	200.0		A
21	###		2016	150.0		B
22			2016	100.0		B
23	###	###	2016	50.0		A
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(1)

1			2015	80.0		A

(2)

1			2015	20.0000		A
2			2015	50.0000		A
3	-		2015	3.5000		A
4	###		2015	5.0000		B
5			2015	10.0000		A
6			2015	10.0000		B
7			2015	129.0000		B
8	HPMC		2015	10.0000		B
9			2015	20.0000		A
10	**** -		2017	34.0000		A

11			2017	103. 0000		A
12	##	####	2017	353. 0000		A
13			2017	10. 0000		B
14			2017	5. 0000		B

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300 2015

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1	Electrospun nanofibrous cellulose diacetate nitrate membrane for protein separation	Lan, Tian; Shao, Zi-qiang; Gu, Mijia; et al	2015	JOURNAL OF MEMBRANE SCIENCE		6.0
2	Fabrication of hydroxyapatite nanoparticles decorated cellulose triacetate nanofibers for protein adsorption by coaxial electrospinning	Lan Tian; Shao Zi-qiang; Wang Jian-quan; et al.	2015	CHEMICAL ENGINEERING JOURNAL		6.2
3	Preparation and properties of environmental-friendly coatings based on carboxymethyl cellulose nitrate ester & modified alkyd	Hongtao Duan, Zi qiang Shao, Ming Zhao, Zhenwen Zhou.	2015	Carbohydrate polymers		4.8
4	Preparation and properties of environmental-friendly coatings based on carboxymethyl cellulose nitrate	Duan H T, Shao Z Q, Zhao M et al.	2016	Carbohydrate Polymers		4.8

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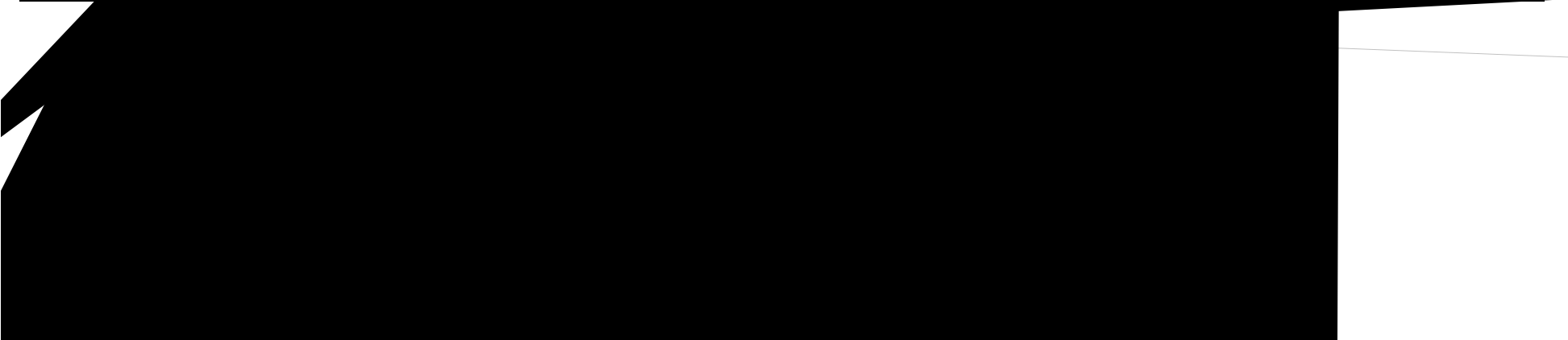
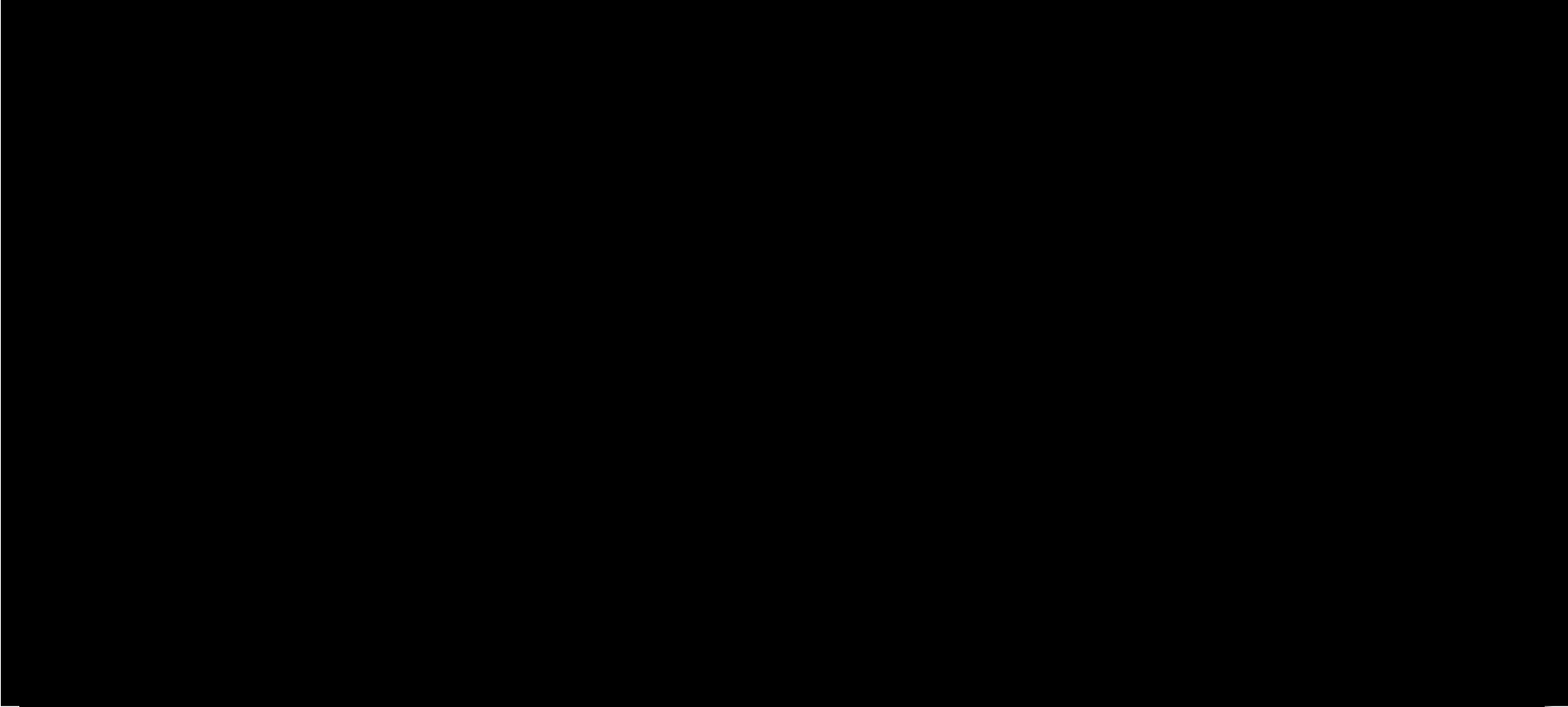
9	Enhanced permeability and antifouling performance of cellulose acetate ultrafiltration membrane assisted by L-DOPA functionalized halloysite nanotubes	Keguang Mu Dalun Zhang Zi qiang Shao Dujian Qin Yalong Wang Shuo Wang.	2017	Carbohydrate Polymers		4.8
10	Multifunctional hybrid films prepared by aqueous stabilization of graphene sheets via cellulose nanofibers and exfoliated montmorillonite system	Yalong Wang Zi qiang Shao Feijun Wang Wenjun Wang Rongjie Yang	2017	European Polymer Journal		3.5

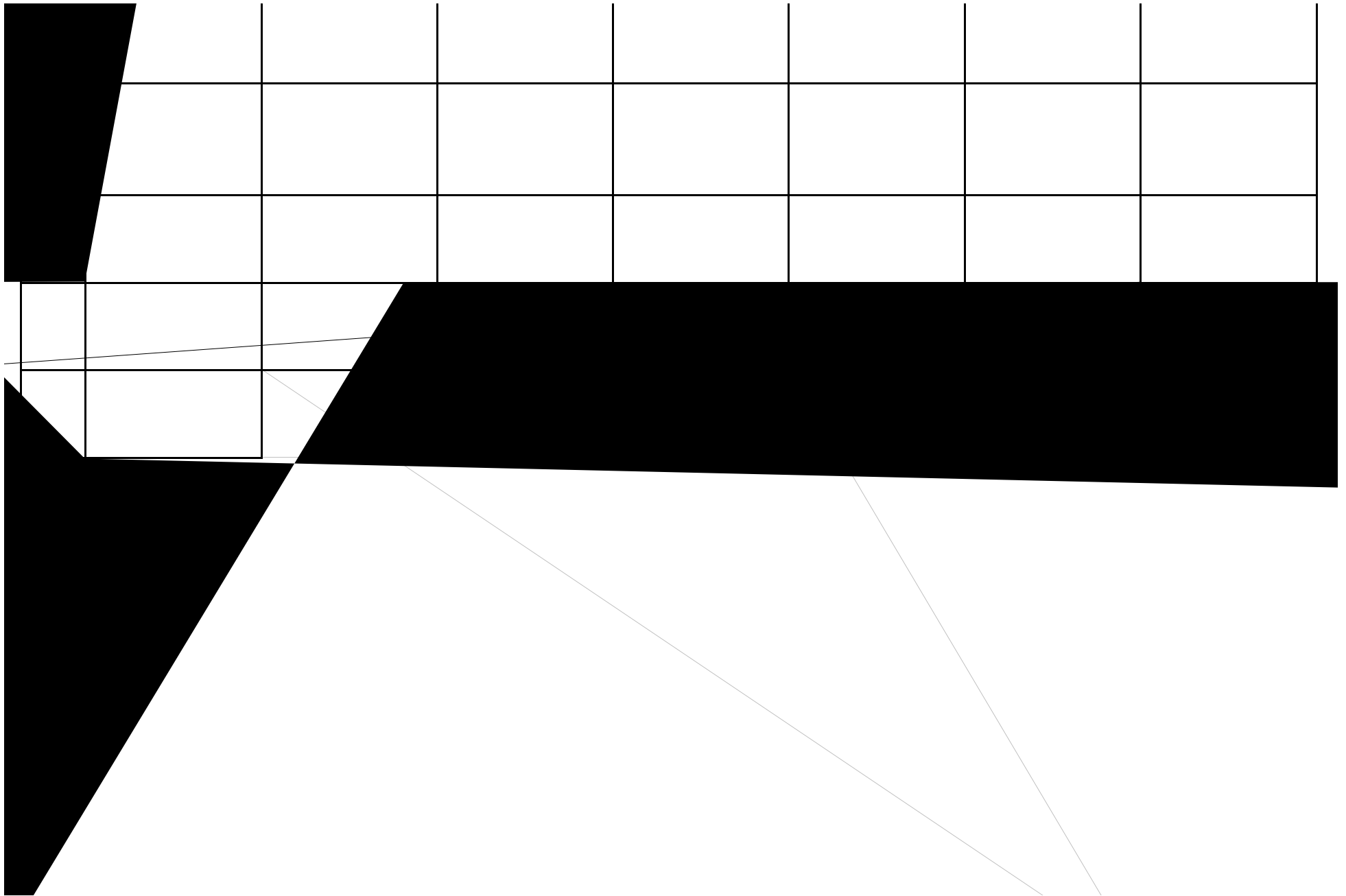
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3		ZL201310089200 .4		2015			
4		ZL201310493518 .9		2015			
5		ZL201310414818 .3		2015			
6		ZL201410254243 .8		2016			

8		CN104017242A		2016			
9		CN103205007A		2015			
10		ZL201310493519 .3		2016			
11	XXX	ZL20141800751. 7		2017			
12	XXX	ZL 20141800962 0.2		2017			
13	XXX	ZL 20131800015 6.6		2015			
14		CN103303891A		2016			
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16	XXX	ZL201418004847 .8		2016			
17	XXX	ZL201410177724 .3		2016			
18	XXX	ZL 20141035433 53		2016			





41		CN107254004A		2017			
42		CN107158966A		2017			
43		CN105906846A		2016			
44		CN105720224A		2016			
45		CN105968215A		2016			
46		CN105885810A		2016			
47		CN107287958A		2016			
48		CN105732917A		2016			
49		CN107632002A		2017			

50		CN107602709A		2017			
51		CN107602711A		2017			
52	-	CN105524290A		2015			
53		CN105694074A		2016			
54		CN106868631A		2017			
55		CN105418770A		2015			
56		CN106866827A		2017			
57	CNC	CN105332163A		2015			
58		CN105131133A		2015			

59	/	CN107256936A		2017			
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63		CN104530464A		2015			
64		CN107607601A		2017			
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66		XXX 2 015180030943 E11		2015			
67		XXX 2 015180030939 E11		2015			
68		XXX 2 015180030924 E11		2015			
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69	XXX	E11		2015			
70	XXX	2 015180049507 E11		2015			

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3 PCT Patent Cooperati on Treaty

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1		GJB 3204—2016		B
2		GB/T XXXXX—2017		B
3		Q/HCJS. F 407-2015		A
4		Q/HCJS. F 408-2016		B
5		Q/AY 110-2015		A
6	GEC	Q/AY. 100-2014		A
7	NGEC	Q/AY 102-2015		B
8		Q/AY621—2013		B

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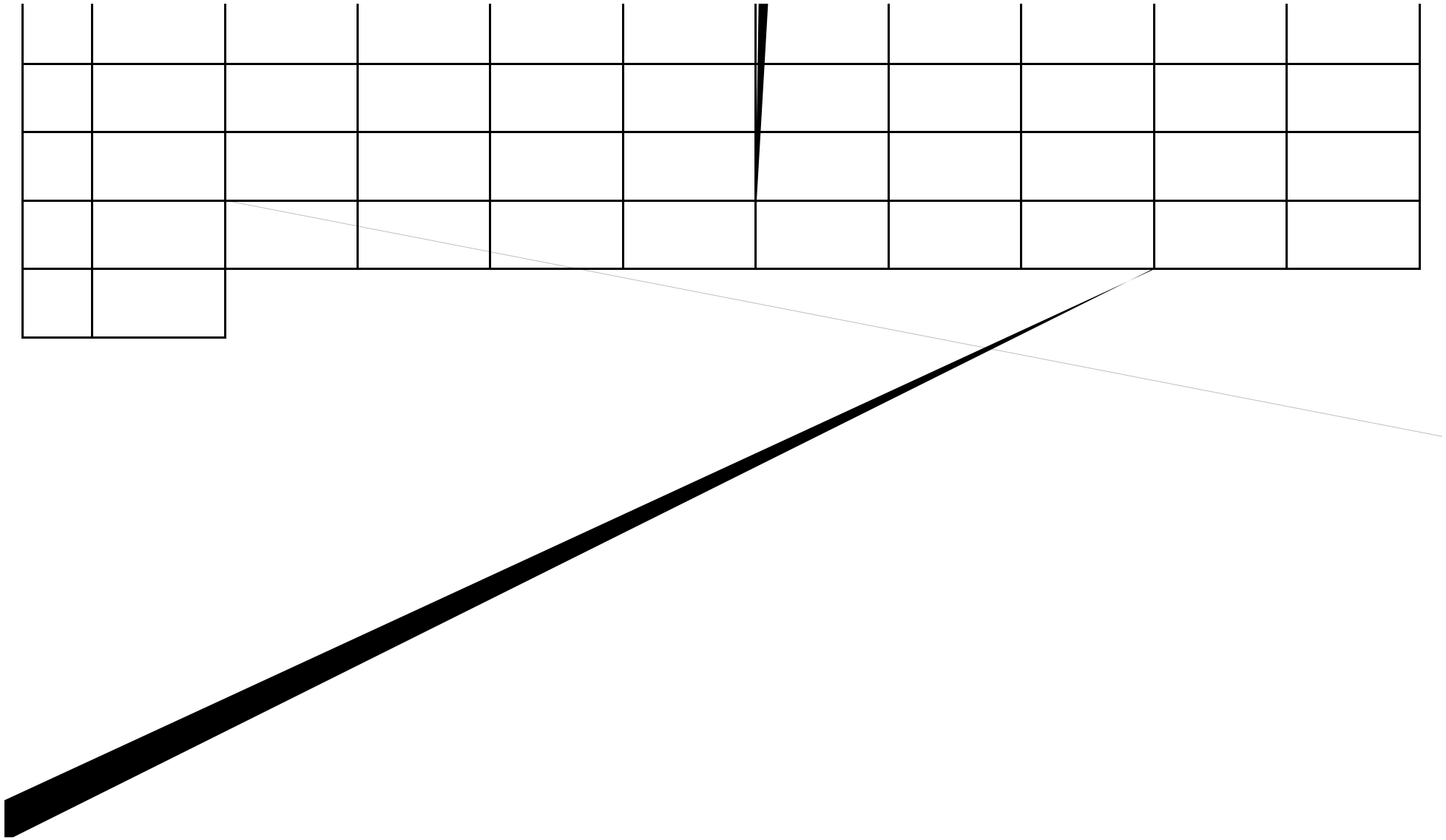
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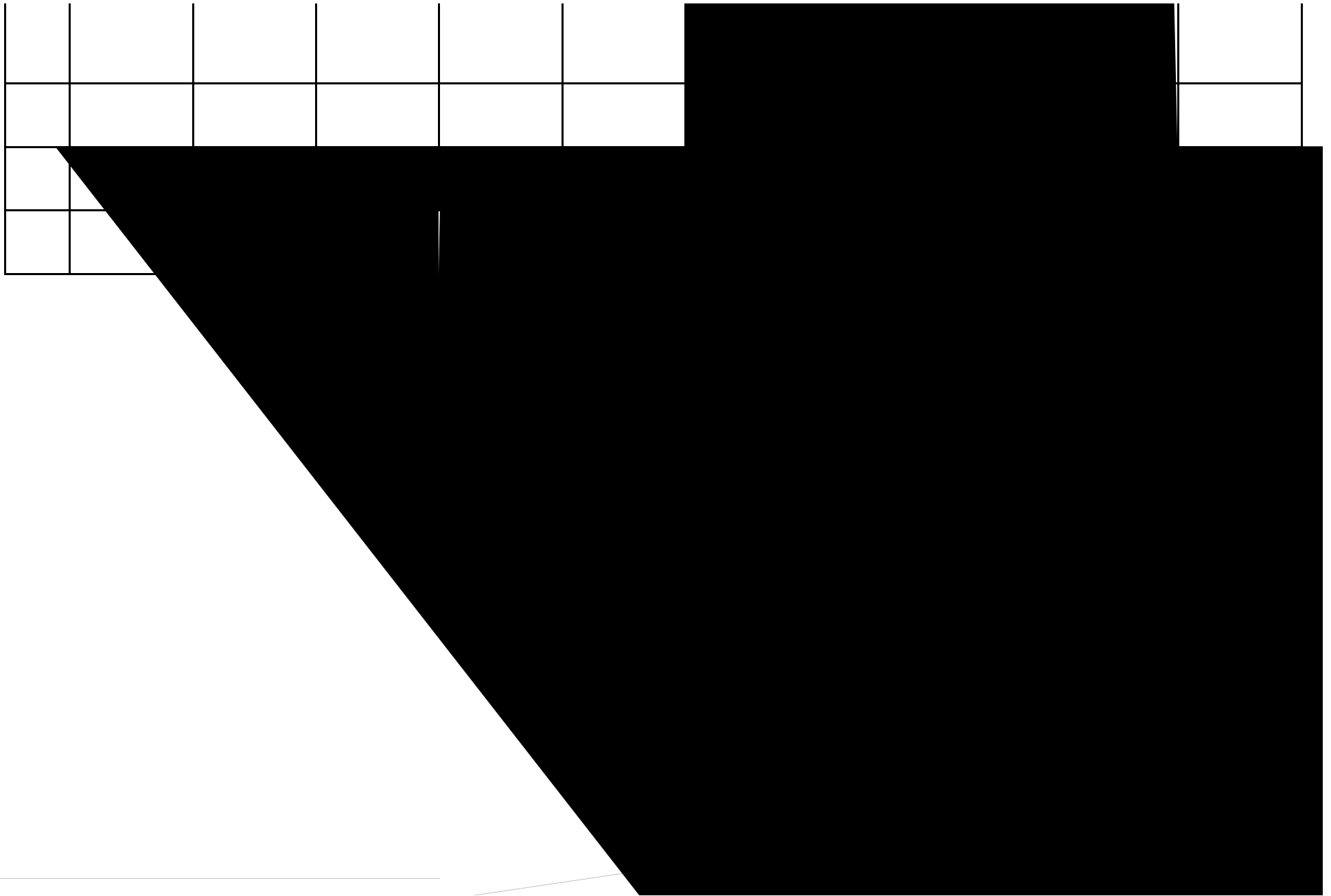
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34			1976-10-01							
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36			1984-10-26							
37			1968-10-12							
38			1981-11-15							
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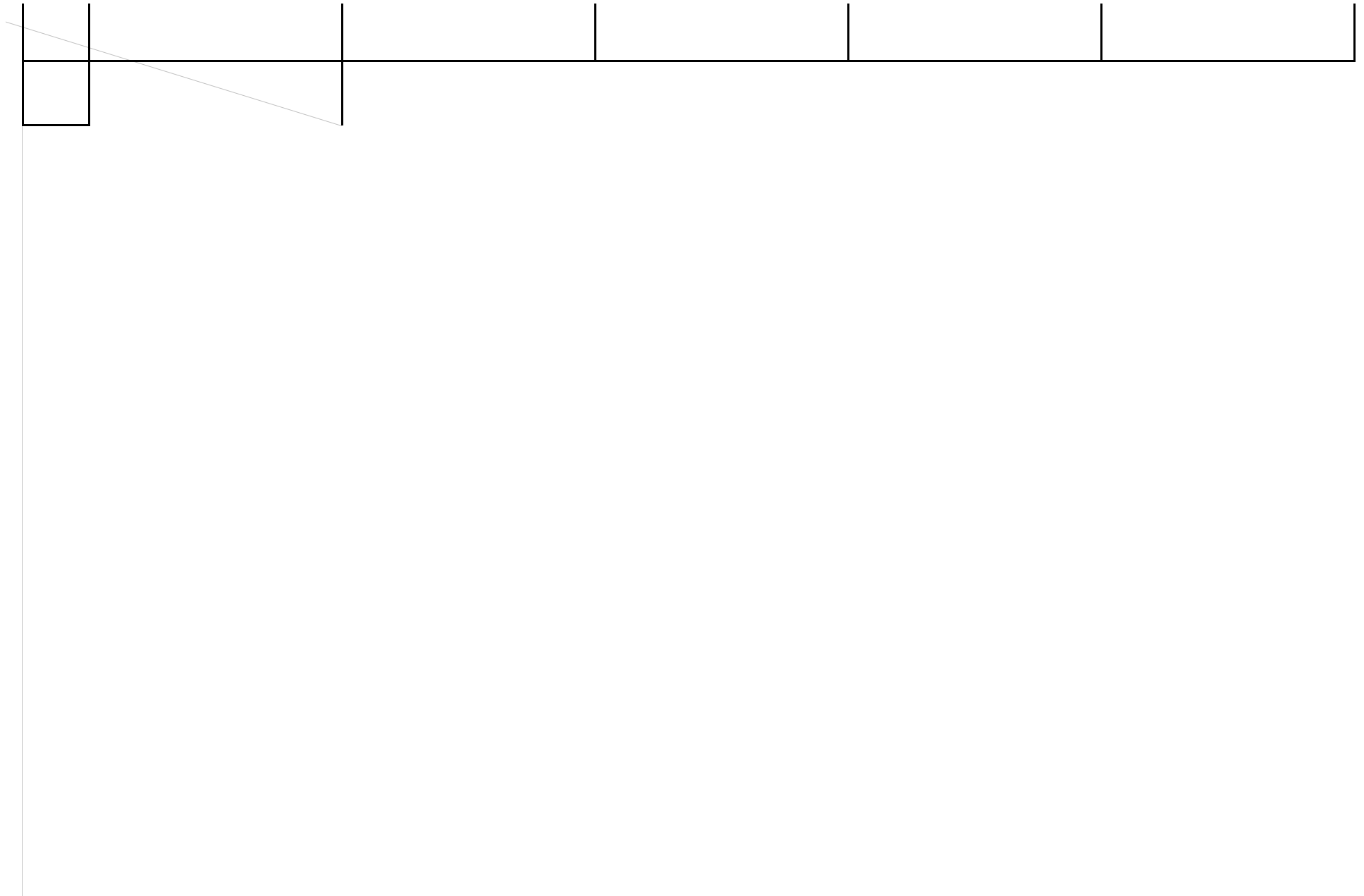
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3	2016 3		15	CMC-Li HPCMC HECMC
4	2016 4		10	HPMC
5	2016 12		10	845 GEC
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2	Takeshi Serizawa		Tokyo Institute of Technology	2016 12 14 Tokyo Institute of Technology Takeshi Serizawa " Multi functional Biomolecules for Polymer Science and Engineering"
3				2017 7-9
				2017 9-10

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4	2016		2016-05		
5	" 21 —	" —	2017-03		Recent Development of Cellulose Nano-materials
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7			2017-11		

