

32

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4248 4

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423; 57

UQ4 PQz XQEu

4:07:vlf

20697vlc 2045: 90825vlc .0859vlc

2022; ' 2022: ' 2022 2033 ' 6077 '

204 '

JL832/4238

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4244/4257

x

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E55; 40 E5352

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Е0Е†В Б 85 Б

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<p>40 4257</p> <p>1 PQz 9332032 1 725207: 1 XQEu 3:;08:</p> <p>1 3:;025 1 653083 1 68086</p> <p>1 6079 1 90:9 1 3084 1</p> <p>50 4257 608</p> <p>1 :5;072 1 :50;7 1 4730:7 50</p> <p>1 :062 1 20:6 1 308: 1</p> <p>20:6 1 3809; 1</p> <p>60 4257 36;907: vEQ4 4:07:vlf</p> <p>70 ö ö</p> <p>XQEu</p> <p>80</p>	<p>UQ4 535304: 2022; ' 2022: ' 20225 '</p> <p>2033 ' 6077 '</p> <p>608</p> <p>4730:7 50</p> <p>308: 1</p> <p>36;907: vEQ4 4:07:vlf</p> <p>ö ö</p> <p>XQEu</p> <p>60</p> <p>70</p> <p>XQEu</p> <p>80 :0859vlc</p>	<p>2022; ' 2022: ' 20225 '</p> <p>2033 ' 6077 '</p> <p>608</p> <p>4730:7 50</p> <p>308: 1</p> <p>36;907: vEQ4 4:07:vlf</p> <p>ö ö</p> <p>XQEu</p> <p>60</p> <p>70</p> <p>XQEu</p> <p>80 :0859vlc</p>	
<p>30</p> <p>40</p> <p>50</p>	<p>-</p>	<p>30</p> <p>40</p> <p>50</p> <p>JL832/4238</p>	
<p>30</p>	<p>×;7 ' 042oilPo<sup>5</sup></p> <p>×;: ' 052oilPo<sup>5</sup></p> <p>×8282mLlo<sup>5</sup></p>	<p>30</p>	

30304


30305

3

4242 4247

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/ / / / /



32

4243/4257

303/4

4243/4257

**30405**

**30403**

		30		30	
		307		ID4: 887/4234	5
		40			423; 57
		50		40	

**30407**

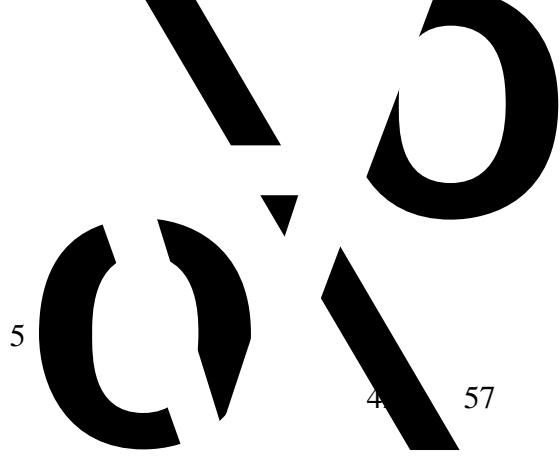
4236 7 36

4236 382

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ID4:887/4234

**30408**

4237 9 44

4237 43:

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4242

\*ID35678/4234+ 4

**30409**

4239 5 49

4239 6; '

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ID4:887/4234

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423; 57

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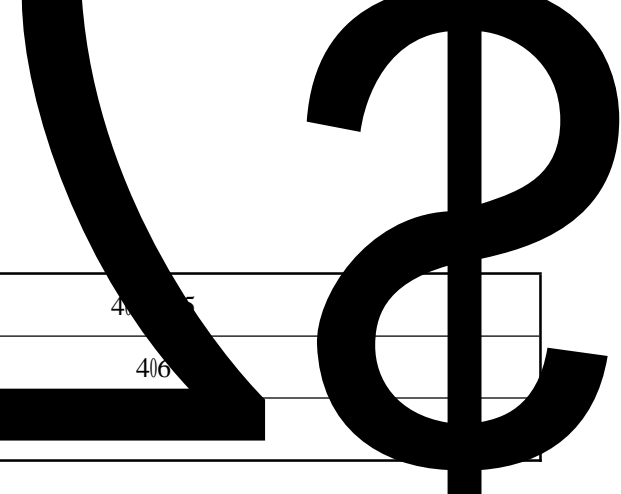
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a @ @LH. @ .Q. @ E L' V

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**403**

4247 3 46

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4247 4 9

]4247\_L1242243

4724/572; :3/26/23/557: :2

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4247 7

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**40303**

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83	533		1	1
84	534	536	1	1
85	535	72		1
				32

**404**

**40403**

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75636054 o<sup>4</sup>

59: :808: o<sup>4</sup>

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322

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**40404**

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		42			5	6		4		4
	3			8		4			9	42
7			3							
						32				
	32									

**40403**

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		3 49o	7	FC223çFC227
		FC223		52222P o <sup>5</sup> lj J ?49o Ó20: o
		FC224		52222P o <sup>5</sup> lj J ?49o Ó20: o
		FC225		82222P o <sup>5</sup> lj J ?49o
		Ó20: o		
		FC226		:2222P o <sup>5</sup> lj J ?49o
		Ó20: o		
		FC227		:2222P o <sup>5</sup> lj J ?49o
		Ó20: o		
		4		
		3 49o	4	FC228çFC229
		FC228		5222P o <sup>5</sup> lj J ?49o Ó208o
		FC229		5222P o <sup>5</sup> lj J ?49o Ó208o
		3		- -
				3222o <sup>5</sup> lf
		42o <sup>4</sup>		42o <sup>4</sup>
				822o <sup>5</sup>

**40405**

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2027 o o 20: o o

522 o o 872 o o

72: o o

4222 o o

34 v

Ocz047o ilo<sup>4</sup>

ID

LKU GP CUVO CRK

**40406**

40404

**40404**

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6		2037 307 o o 872 o o		8
7		872 o o		4
8		872 o o		9
9		38		42
:		1		7
;		872 o o		3
32		42 l j		3
33		1		32
34		822 o <sup>5</sup> l j		3
35		49P o <sup>5</sup> l o k p 209 O R c		4
36		[ R J / 422 / 7 P 422 o <sup>5</sup> l j		3

**40407**

3

40405

**40405**

3		v l c	3205	6222
4		v l c	37	
5		v l c	32	
6		m Y j l c	422	1
7		P o <sup>5</sup> l j	582	1
8		o <sup>5</sup> l c	33279;06	1
9		o <sup>5</sup> l c	322	
:		o <sup>5</sup> l c	;3906	1
;	RUC	m i l c	422	
32		m i l c	922	
33		o <sup>5</sup> l c	99822	1
34		v l c	7	

422 522

672ϕ872 o o

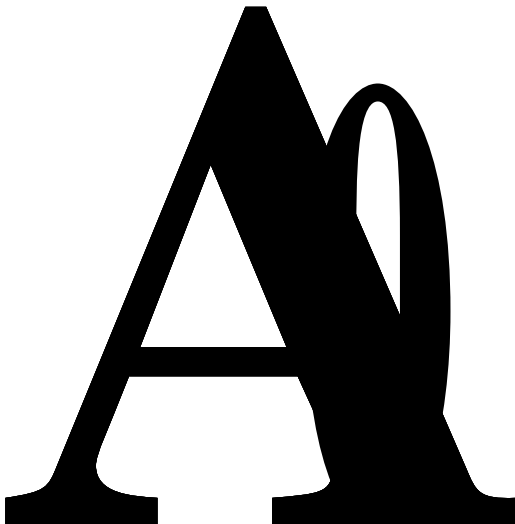
Ö2085/302 o o

40408

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40408

40408



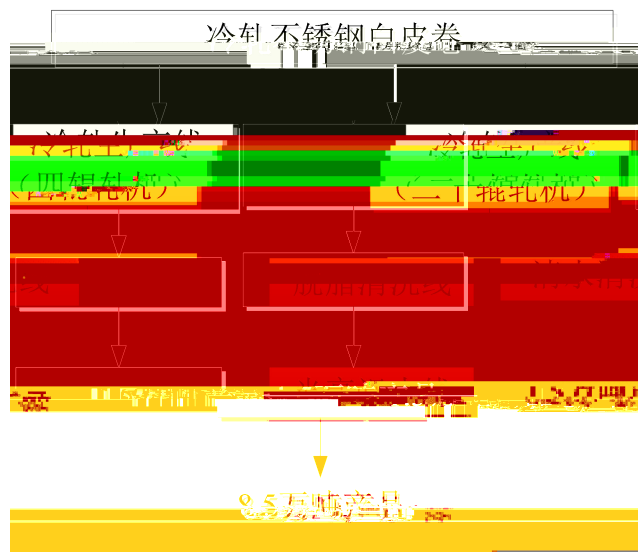


405

40503

405/3

32 1



405/3

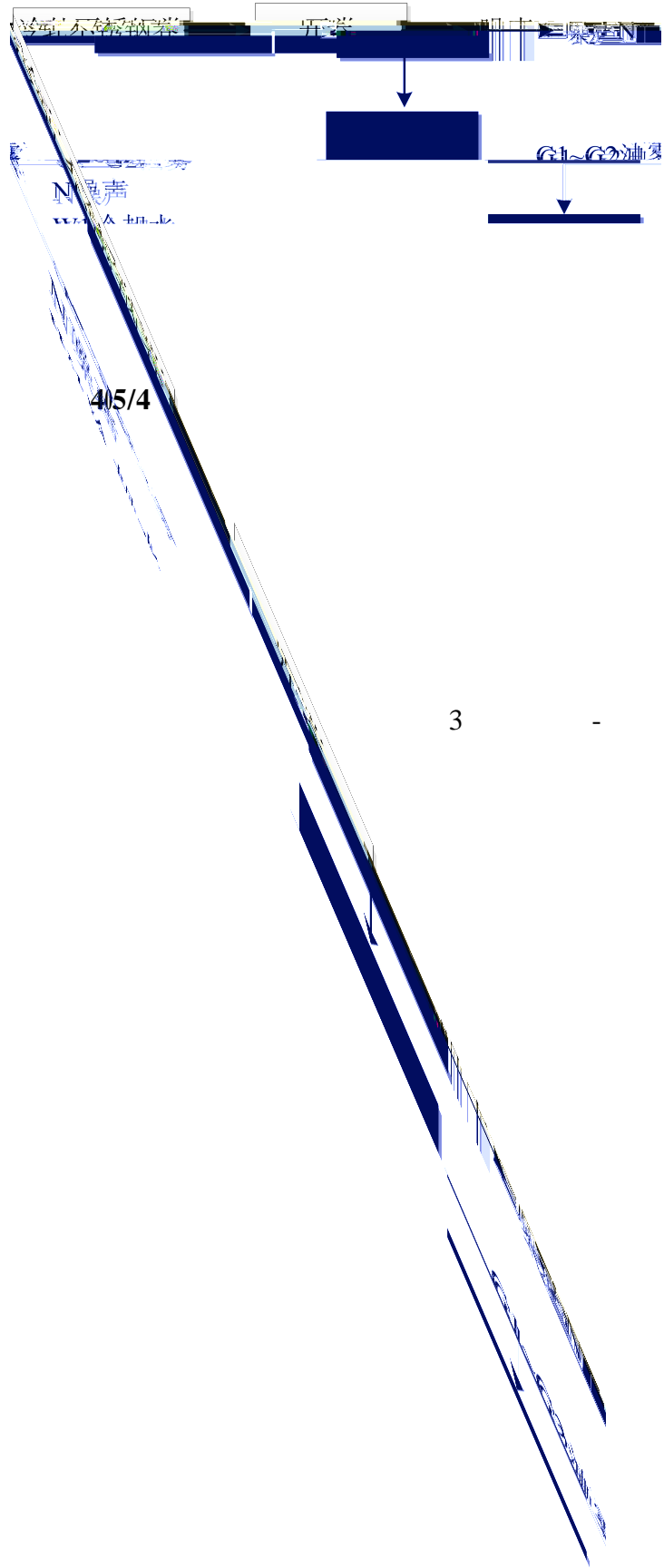
4050303

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U3

U4 Ö

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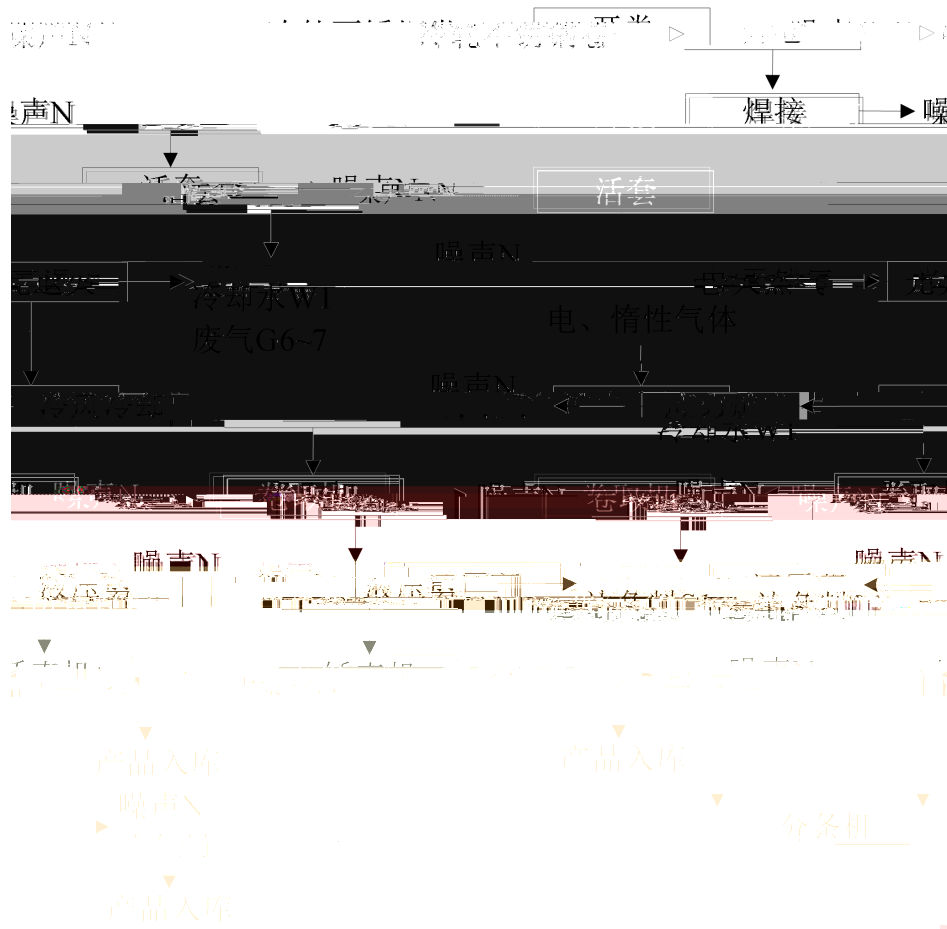




5

Y4

EQF rJ



405/7

4

Y3

I8& I9

3% & 4%

UQ4 PQz

5% & 7%

:22

UQ4 PQz

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U3

40504

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TQ

TQ

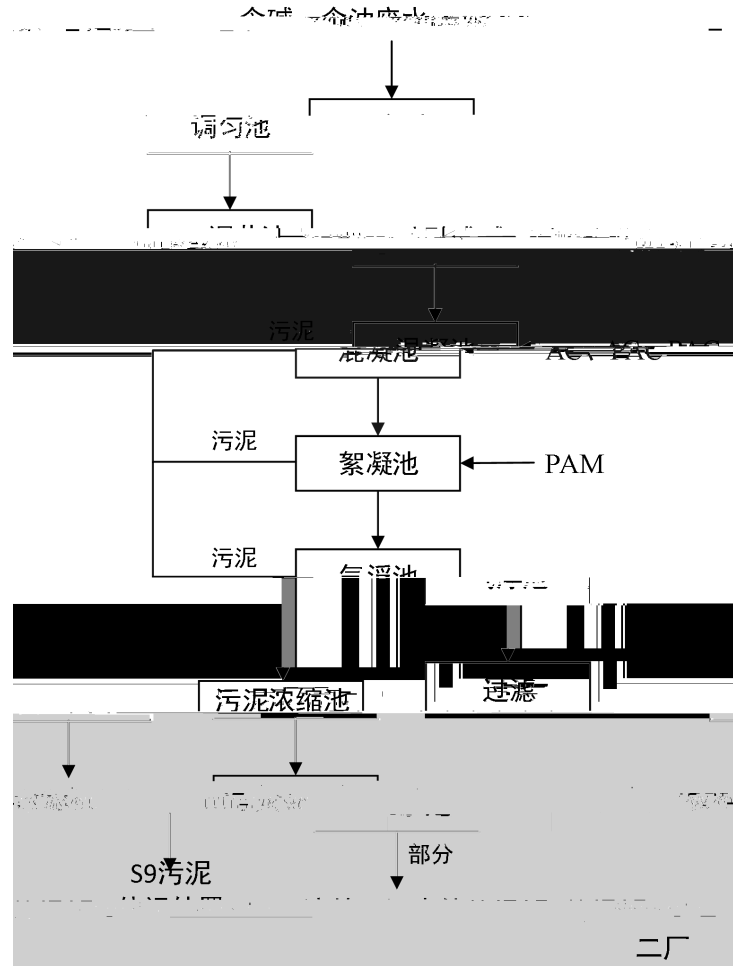
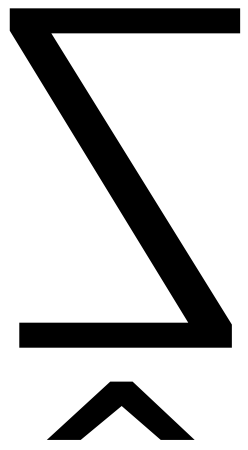
TQ

202223

W3

U7

U8



405/:

U;  
5



40503

Y3	UU	
Y4	EQF	rJ
Y5	EQF	
Y6	EQF	UU
Y7	EQF	UU
I3		49
I4		49
I5		

	503
	504
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503

50303

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50304

5030403

\*JL404/423:+

4246

4246

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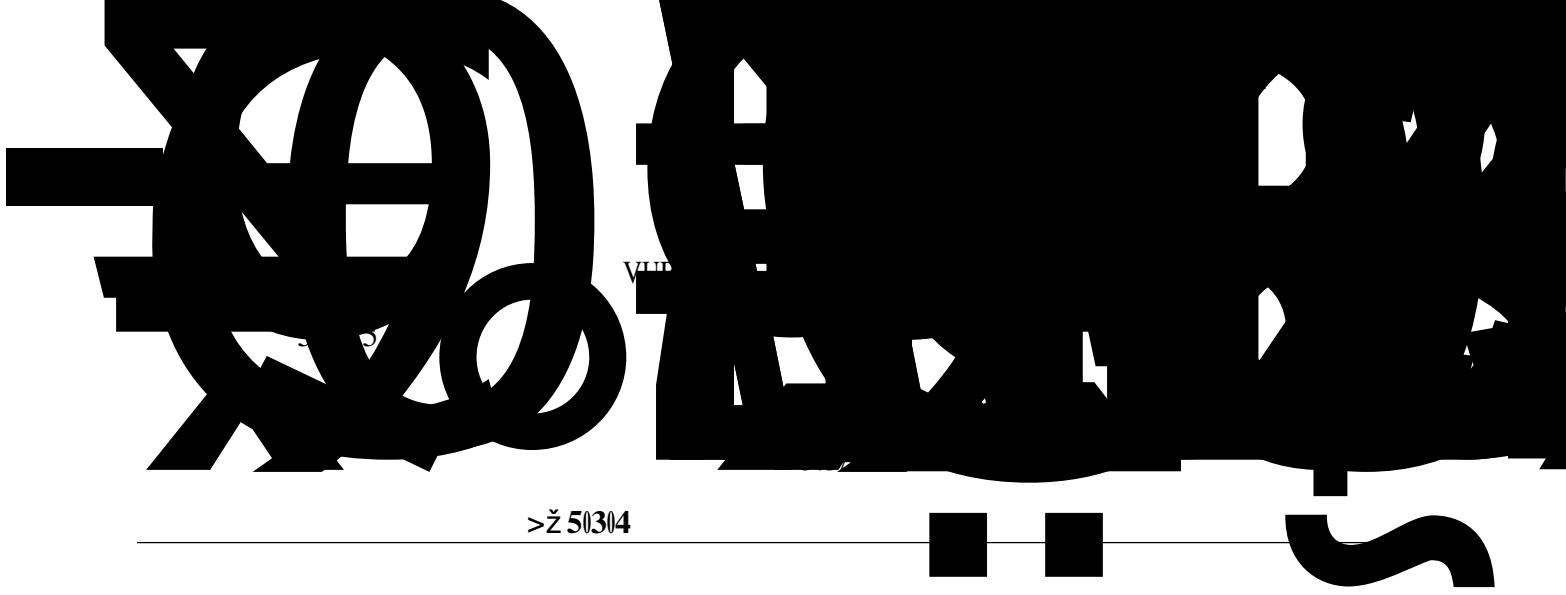
ID52;7/4234

50303

4246

			RO <sub>32</sub>	RO <sub>407</sub>	EQ	
	ilo <sup>5</sup>	ilo <sup>5</sup>	ilo <sup>5</sup>	ilo <sup>5</sup>	o ilo <sup>5</sup>	ilo <sup>5</sup>
	7	32	4;	3:	304	332
	82	62	92	57	6	382

UQ<sub>4</sub> PQ<sub>4</sub> RO<sub>32</sub>



>ž 50304

VUR	9	4246	9	3:	48
	5	4247	4	4:	5 5

50305

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7% 8% 9% 34% 35% 36%



D4	4802	D9					
			4 oilN	66 oilN		5307 oilN	66 oilN
D9		4 oilN	D3				
			20:3 oilN	3069 oilN		3035 oilN	
3069 oilN	D:		20:3 oilN	D9			
rJ	rJ	908:	90;;	Pi	2024	203;	
			90;;	D:			

**50306**

72

432 o

72

**50307**

75636054 o<sup>4</sup>

**50308**

**50309**

**504**

722

**50403**

			432 o	572	ID52;7/4234
			4;2 o	4456	
			4;2 o	62	
			5:7 o	3222	
	72 o				
	722 o				

**505**

**50503**

4242

34

423; 57

4236 3

ID4:887/4234 5

50503

ID384;9/3;;8

4

FD57139:4/423: 5

50504

**50503**

**o i l o<sup>5</sup>**

		42		*ID4:887/4234+ 5
		32		423; 57
		72		
		422		

**50504**

**o i l o<sup>5</sup>**

	34		ID384;9/3;;9 4
	402		FD57139:4/423: 5

50504

\* ID35678/4234+ 4

ID3:;3:/4224 C

50505

oilN rJ

		ID35678/4234 4		
3	rJ	8ç;	8ç;	8ç;
4		322	342	322
5	EQF <sub>Et</sub>	422	582	422
6	DQF <sub>7</sub>	1	322	322
7		37	52	37
8		57	62	57
9		402	5	402
:		32	37	32

50506

oilN

C

3	rJ	8ç;	8ç;
4	EQF	Ö72	Ö97
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50506

ID3:7;;/4242

ID3:7;9/4245

506

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EQFet

PJ<sub>5</sub>/P UQ<sub>4</sub> PQ<sub>Z</sub>

50603

UQ<sub>4</sub> PQ<sub>Z</sub> XQE<sub>U</sub>

50603

50603

vlc

vlc

20637

EQF

2042:

20243

2069

	603
	604
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	60:

**603**

**60303**

**6030303**

3

82'

VUR

72 322o

4

EQ EQ<sub>4</sub> Q<sub>5</sub> PQ<sub>Z</sub> EJ<sub>6</sub>

EQ

5

EQ

82/:2oilo<sup>5</sup>

VJE

:2/322oilo<sup>5</sup>

**6030304**

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205v

60303

**60303**

	fD	C	o
4	:4		7
7	:7		7
7	9;		3
32	;7		3

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604

60403

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UQ<sub>4</sub> PQz

JL::7/423: C03

604/3

60403

			30 40	30 40
		UQ <sub>4</sub>	30 40	30 40 50
		PQz		30 40
				30 40

6040303

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6 3 42 4 4: o 37

42o 4 46o 5 3 32 1

6 42

×;7'

;2' - ×;7'

;2' 4246 8 4

4247

60403

PF<sub>4</sub>2o ilo<sup>5</sup> UQ<sub>4</sub>

PQz

:3<sub>4</sub>382o ilo<sup>5</sup>

208<sub>4</sub>302o ilo<sup>5</sup>

6:



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Mp		3
O		54026
R	Rc	34;92
Me	302	3
	mil o <sup>5</sup>	20396
	vlc	20427

**60405**

		4
	vlc	20632
	milj	20274

9;42j

N<sub>D</sub>?203;3 O\*Rl\*322;32/R++<sup>208</sup>: F<sup>3095</sup> J<sup>2073</sup> V<sup>2067</sup> H<sub>R</sub> E M<sub>E</sub>

ND milc

O  
R Rc  
F o  
J o  
V 32  
H<sub>R</sub> 305; 3024  
E 2φ; o E?3/202345  
F/; 4 ;o E?3  
M<sub>E</sub> ME 2087 302

**60406**

O			54026
R	Rc		34;92
F	o		5
J	o		206
V		32	32
H		305; 3024	3042
E			207794
Me	M <sub>E</sub>	2087 302	302
			20;
	vlc		20233:
	milj		202236

**60407**

	4
vlc	202459
milj	202252

9;42j

6

6040305

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6048

**60409**

		o	o	o		milj
O3		;2	42	5		20267
O4		3:2	45	5		2055
O5		37	33	905		20225

**6040:**

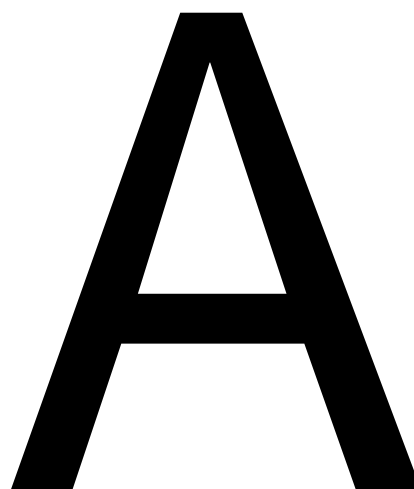
		*o ilo <sup>5+</sup>	*milj+
I3		37	2067
I4		37	2067
I5		37	30:
I6		37	406
I7		37	406

60404

6040403

3

;2'



**60404**

3%ç4%

UQ<sub>4</sub>

JL/DCV/228

UQ<sub>4</sub>

PQ<sub>z</sub>

Ö382o ilo<sup>5</sup>

Ö402o ilo<sup>5</sup>

]423;\_57

3%ç4%

PQ<sub>z</sub> UQ<sub>4</sub>

423;

57

Ö32o ilo<sup>5</sup> UQ<sub>4</sub>

Ö72o ilo<sup>5</sup> PQ<sub>z</sub>

Ö422o ilo<sup>5</sup>

**60405**

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450; o

49 o

\* ID4: 887/4234+

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**60406**

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IDIV38379/3;;8





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60504

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60504

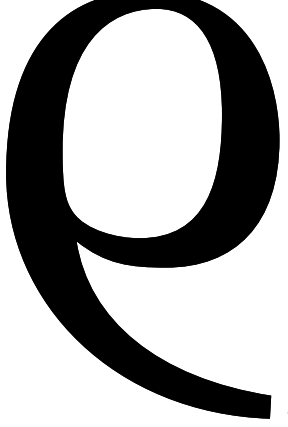
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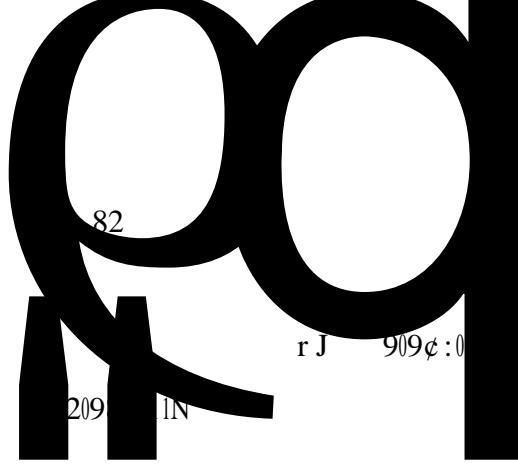
4507 o i l N

\* ID35678/4234+

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209 i l N

r J 909ç:0

96097 o i l N

\* JL:68/4239+

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307 vlf

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4248 34

**60505**

\*ID35678/4234+ 4

\*ID3:;3:/4224+ 3 C

**60506**

JL :3;

JL :9:

**60506**

		rJ EQF	3 1
		UU	3 1

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60603

\*JL: :7/423:+ I

:7 ;7fD\*C+

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JL406/4243

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**60606**

JL3523/4245

**60605**

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**607**

**60703**

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J Y2: J Y6;

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\*ID3:7;9/4245+

60704

			vlc		v		
3		J Y2:*;22/426/2:+	80:		4	5	4o <sup>4</sup>
4		J Y2:*;22/435/2:+	708		307	5	307o <sup>4</sup>
5	* +	J Y2:*;22/432/2:+	:2		32	3	32o <sup>4</sup>
6		J Y6:*;22/263/6;+	317c		1		1
7		J Y2:*;22/46;/2:+	32		4		1
8		J Y2:*;22/46;/2:+	3		3	8	3o <sup>4</sup>
9		J Y6:*;22/263/6;+	207		207	8	3o <sup>4</sup>

5

**60705**

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420<sup>4</sup>

ID3:7;9/4245

ID3:7;;/4242

ID3:7;9/4245

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**608**

**609**

**60903**

60904

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JL832/4238

60903

				Od×802 o MÖ3 32 <sup>9</sup> e o lu
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		ô		Od×307 o MÖ3 32 <sup>9</sup> e o lu
	ô			
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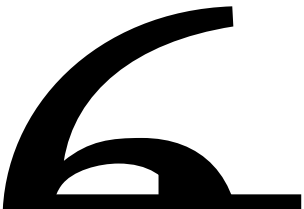
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JL832/4238

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ID3:7;9/4245

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JL832/4238

×307 o

Ö302 32<sup>9</sup>e o lu

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FC223 - 3  
52222P o<sup>5</sup>lj J ?49o

FC224 - 3  
52222P o<sup>5</sup>lj J ?49o

FC225 - 3 7/4234 ID4:88  
82222P o<sup>5</sup>lj J ?49o 5

FC226 - 3 42o ilo<sup>5</sup>  
:2222P o<sup>5</sup>lj J ?49o

FC227

12oilo<sup>5</sup>

rJ EQFet  
DQF<sub>7</sub> UU  
PJ<sub>5</sub>/P VR  
VP

rJ8/;  
EQF 422oilo<sup>5</sup>  
DQF<sub>7</sub> 322oilo<sup>5</sup>  
UU 322oilo<sup>5</sup>  
15oilo<sup>5</sup>  
2.0oilo<sup>5</sup>  
EQF 57oilo<sup>5</sup>

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\*ID3456:/422:+ 5  
\* Ö87fD\*C+  
Ö77fD\*C++

ID3:7; ;/4242

	4	6:
	423;	
	4239 :6	

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JL38;/423:

JL38;/423:

**403**

**40303**

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XQEu

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**40404**

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JL38;/423: E03

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O3 O4 O5 O6





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	I3	I4	I5
<b>F3</b>	G3	G3	<b>G4</b>
F4	G3	G4	G5
F5	G3	G4	G5

50608

I3

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c

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I 0608 ž

50703

G				R	
		R3		<b>R5</b>	R6
<b>G3</b>	KX-				KKK
<b>G4</b>	KX		R4	KKK	KK
<b>G5</b>	KKK				
		KX-			

6

603

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60503

720<sup>5</sup>

EQ

60503

	4 720 <sup>5</sup>			
	EQ	EQ		

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CHVQZ

CHVQZ

4

H

307 o lu

47

72 '

704

3

4 720<sup>5</sup>

52 okp

32 o o

JL 38; / 423:

H0303

$$Q_L = C_d A \sqrt{\frac{4 P_1 - P_2}{4gh}}$$

SN ô ô

mi lu

Ef ô ô

Tg 322

2087

C ô ô

32 o o

2022229:70<sup>4</sup>

$\hat{o} \hat{o}$   $9;3\text{mil}o^5$   
 R/ R2  $\hat{o}$   $2Rc$   
 $i \hat{o} \hat{o}$   $;0:3o\text{lu}^4$   
 $j \hat{o} \hat{o}$   $3o$   
 $52o\text{kp}$

70403

**70403 c p**

	p	c
	204	$50:68 \ 32^{/5}$
	2047	$608:7 \ 32^{/5}$
	205	$704:7 \ 32^{/5}$

**70404**

		*e $o^4_+$	*milu+	*okp+	*mil52okp+
		209:7	203:	52	546

62 $o^4$

8609

JL38;/423:

S<sub>5</sub>

$Q_5 \ a \ p \ M \ l \ R \ T_2 \ u^{*4 \ n+l*4 \ n+} \ r^{*6 \ n+l*4 \ n+}$

S<sub>5</sub>  $\hat{o} \hat{o}$  milu

.p  $\hat{o} \hat{o}$  70403

r  $\hat{o} \hat{o}$  Rc

O  $\hat{o} \hat{o}$  miloqn

T  $\hat{o} \hat{o}$  Lloqn m

V2  $\hat{o} \hat{o}$  m

w  $\hat{o} \hat{o}$  o lu

t  $\hat{o} \hat{o}$  o

70405

**70405**

$o^4$

o lu

\*milu+

\*G H+

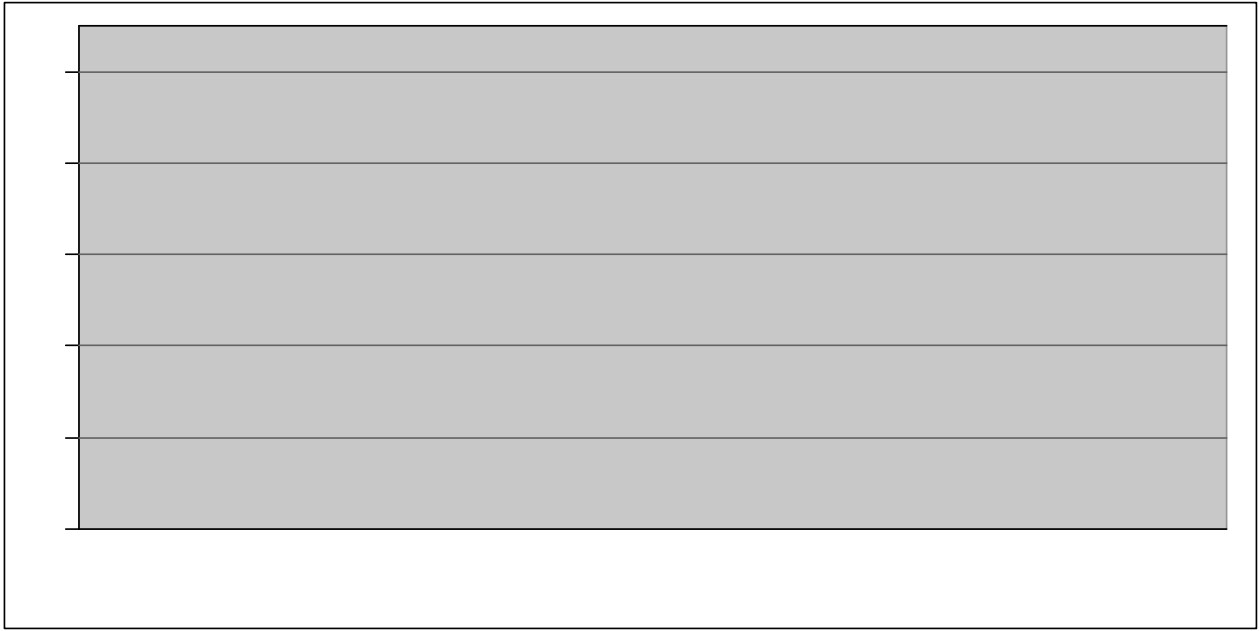
63

3>>

o §

;7





70503

**70503 EQ**

		EQ milu
	EQ	2022;6

4

CHVQZ

c

CHVQZ

H

307 o lu 47 72 ' /3 5:2 o ilo<sup>5</sup>

/4 ;7 o ilo<sup>5</sup> 92 o 3:2 o 70504

**70504 EQ**

	milu		* o +
*H+	2022;6	/3*5:2 o ilo <sup>5</sup> +	92
307 o lu		/4*;7 o ilo <sup>5</sup> +	3:2

d

CHVQZ

EQ 70505 66480;2 o ilo<sup>5</sup> 2033 okp

32 o /4 ;7 o ilo<sup>5</sup> 4 o 2055 okp

52 o 705/3

**70505 EQ**

o	okp	o ilo <sup>5</sup>
32	2033	66480;2
42	2044	3984042
52	2055	32;8062
62	2066	9;:046
72	2078	83903;
82	2089	6;5077
92	209:	626058
:2	20:;	559097
;2	3022	4:8087
322	3033	468082
332	3044	436083
342	3055	3: :086
352	3066	

382  
392  
**3:2**

309 :  
30 : ;  
**4022**

343092  
332097  
**323049**

70603

NE72

70603

32'

70603

S	NE72					
	422	422 3222	3222 4222	4222 32222	32222 42222	42222
322	7	32				
322 722	307	5	8			
722 3222	3	4	6	7	:	
3222 7222		207	3	307	4	5
7222 32222			207	3	3	4
32222 42222				207	3	3
42222 72222					207	207
72222 322222						207
NE72		o ilo <sup>5</sup> S			v	

20239milu, 32' ? 20223: milu

70604

20239milu, 32' ? 20223: milu

o  
3

okp

oilo<sup>5</sup>

		1	1
--	--	---	---

**707**

3

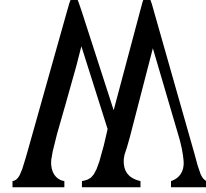
4

5

6

**8**

**803**



b

3

4

805

SIU [ 2:3;2/423;

X ? X<sub>3</sub>- X<sub>4</sub>/ X<sub>5</sub> ocz - X<sub>6</sub>- X<sub>7</sub>

X<sub>4</sub>?ŨS 0v

X<sub>7</sub>?32s0h

X<sub>3</sub>- X<sub>4</sub>/ X<sub>5</sub> ocz

X<sub>3</sub>- X<sub>4</sub>/ X<sub>5</sub>

X<sub>3</sub> ô ô

o<sup>5</sup>

X<sub>4</sub> ô ô

o<sup>5</sup>

X<sub>5</sub> ô ô

o<sup>5</sup>

X<sub>6</sub> ô ô

o<sup>5</sup>

X<sub>7</sub> ô ô

o<sup>5</sup>

s ô ô

o o

3

4

72 o<sup>5</sup>

X<sub>3</sub>?322 o<sup>5</sup> 2v

4

ID72;96/4236

1

r

5

2

X<sub>5</sub>?72

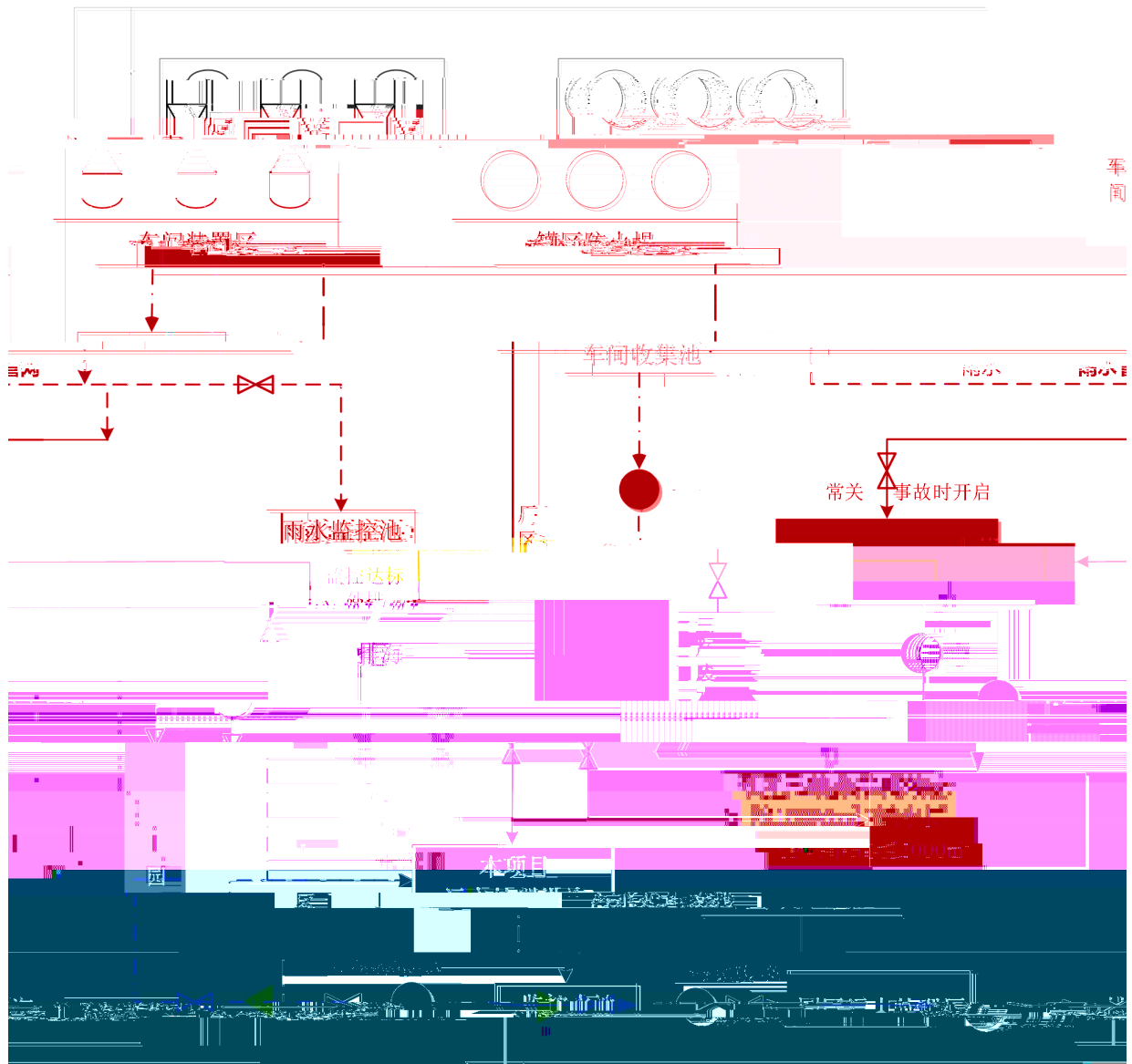
f0

42 o o

822 o<sup>5</sup>

4222 o<sup>5</sup>

32222 o<sup>5</sup>



806/3

9

3

\*ID35678/4234+

4

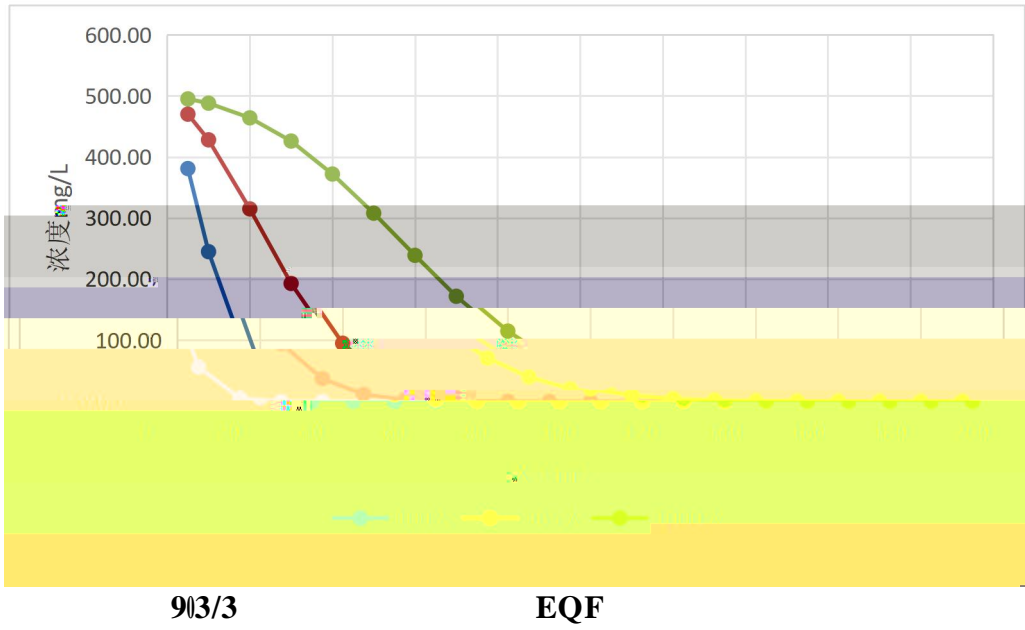
4

$;2 \times 10^5$

EQF 7220



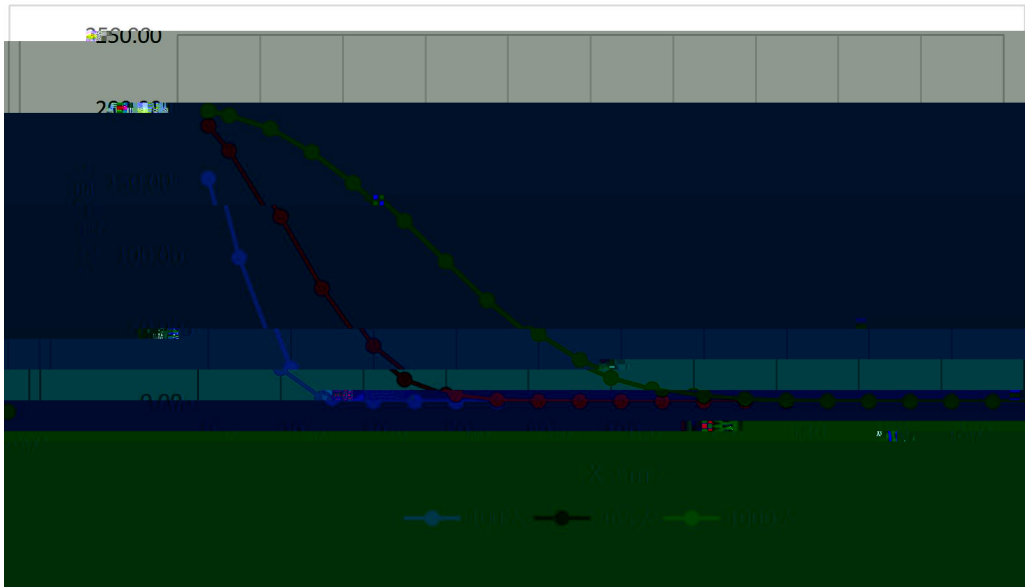
377			2057
382			2042
387			2033
392			2028
397			2025
3:2			2024
3:7			2023
3;2			2022



**90304**

Z*o+	322	oiN 587	oiN 3222	oiN
7	422022	422022	422022	
32	374022	3: :022	3: :022	
37	; :022	393022	3; 7022	
42	74032	372022	3; 3022	
47	44072	348022	3; 8022	
52	90:6	323022	39:022	
57	403:	99032	392022	
62	206:	77092	382022	
67	202:	5:022	36;022	
72	2023	46072	359022	
77	2022	360;2	345022	
82		:075	32;022	
87		607:	;7072	
92		4054	:30;2	
97		3032	8:0;2	
:2		206;	780;2	
:7		2042	68022	

;2		202 :	58072
;7		2025	4 :052
322		2022	43072
327			38022
332			33092
337			:052
342			7099
347			50;5
352			4083
357			3092
362			302 :
367			2092
372			2063
377			2046
382			2036
387			202 :
392			2026
397			2024
3:2			2023
3:7			2023
3;2			2022



903/4

		EQF	322	587	3222
72 o	327 o	3;2 o	322	587	3222
77 o	322 o	3;2 o			

3

3

4

IDIV72;56

/

JL 832/4238

IDIV72;56

60804

:

806

3

4

5

3

4

5

4

5

OUFU

6

7

8

3

4

5

6

3

4

EQ

5

EJ<sub>6</sub>

EJ<sub>6</sub>

3

4

4

5

6

;

4237

6

JL38;/423:

**32**

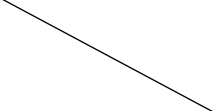
EQ

$822 o^5$

$4222 o^5$

$32222 o^5$





	2	2	2	20697	1	20697	-20697
UQ <sub>4</sub>	2	2	2	2045:	1	2045:	-2045:
PQz	2	2	2	90825			