

HJ 1071-2019

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**Water quality—Determination of glyphosate  
—High performance liquid chromatography**

2019-12-31

2020-06-30

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2019 12 31  
2020 6 30

1

20

2

8

2

HJ 91.1  
HJ/T 91  
HJ/T 164

3

pH 4 9  
FMOC-Cl

9-

4

5

5.1 CH<sub>3</sub>CN  
5.2 CH<sub>3</sub>OH  
5.3 CH<sub>2</sub>Cl<sub>2</sub>

5.4  $\rho$  HCl =1.19 g/ml

5.5  $\rho$  H<sub>3</sub>PO<sub>4</sub> =1.69 g/ml

5.6 NaOH

5.7 1+1

50 ml 5.4 50 ml

5.8  $c$  NaOH 0.1 mol/L

0.4 g 5.6 100 ml

5.9  $\varphi$  H<sub>3</sub>PO<sub>4</sub> =0.2%

2.0 ml 5.5 1000 ml

5.10 Na<sub>3</sub>C<sub>6</sub>H<sub>5</sub>O<sub>7</sub>·2H<sub>2</sub>O

5.11 Na<sub>2</sub>B<sub>4</sub>O<sub>7</sub>·10H<sub>2</sub>O

5.12  $c$  Na<sub>2</sub>B<sub>4</sub>O<sub>7</sub> =0.05 mol/L

1.91 g 5.11 100 ml

5.13 9- C<sub>15</sub>H<sub>11</sub>ClO<sub>2</sub> 99.0% 4

5.14 9-  $\rho$  C<sub>15</sub>H<sub>11</sub>ClO<sub>2</sub> =1000 mg/L

50 mg 9- 5.13 5.1 50 ml

5.1 5.1 4 3

5.15 C<sub>3</sub>H<sub>8</sub>NO<sub>5</sub>P 99.0% 4

5.16  $\rho$  C<sub>3</sub>H<sub>8</sub>NO<sub>5</sub>P =1000 mg/L

50.0 mg 5.15 50 ml

4 6

5.17  $\rho$  C<sub>3</sub>H<sub>8</sub>NO<sub>5</sub>P =10.0 mg/L

5.16 10.0 mg/L

4 2

5.18 0.45  $\mu$ m

6

6.1 HPLC

6.2 5 250 mm 4.6 mm C<sub>18</sub>

6.3 N-

500 mg/6 ml

6.4 PE 10 ml

6.5

6.6

6.7 250 ml 500 ml

6.8 2.0 ml

6.9

2

7

7.1

HJ 91.1	HJ/T 91	HJ/T 164						
	6.7					pH	4 9	
5.7		5.8	pH	4 9 4				7 d

7.2

7.2.1

	6 ml	5.2	6 ml		6.3			
10 ml		29.3 mg		5.10		3 ml/min	1 /	
								5.10
1		5.18						
					5.10			
2								

7.2.2

	2.00 ml		PE	6.4		0.50 ml		
5.12	1.00 ml 9-			5.14				6.5
40	1 h							

7.2.3

1

min	A %	B %
0	35	65
10	25	75
15	80	20
20	35	65
25	35	65
15 min 20 min min		20 min 25

8.2

0 10 20 50 100 200 500

5.17 5

7.2.2

7.2.3

8.1

8.3

8.2

7.2

8.4

8.3

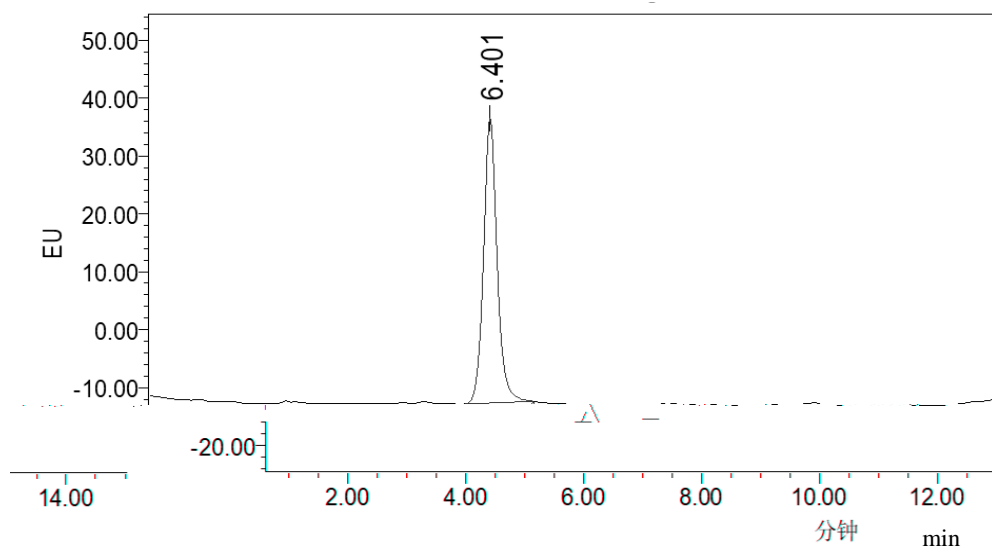
7.3

9

9.1

8.1

1



1

9.2

1

$$\rho = \rho \times D$$

1

$\rho$   
 $\rho_1$   
 $D$

9.3

3

10

10.1

6		10 $\mu\text{g/L}$	100 $\mu\text{g/L}$	6	
		2.2%	9.2%	2.5%	8.5%
					6.8%
6.3%	2 $\mu\text{g/L}$	14 $\mu\text{g/L}$		2 $\mu\text{g/L}$	22 $\mu\text{g/L}$
6		10 $\mu\text{g/L}$	100 $\mu\text{g/L}$	6	
		3.3%	9.8%	1.3%	3.8%
					5.1%
4.8%	2 $\mu\text{g/L}$	9 $\mu\text{g/L}$		2 $\mu\text{g/L}$	16 $\mu\text{g/L}$
6		10 $\mu\text{g/L}$	100 $\mu\text{g/L}$	6	
		3.2%	7.6%	2.7%	7.4%
					6.1%
8.4%	2 $\mu\text{g/L}$	14 $\mu\text{g/L}$		2 $\mu\text{g/L}$	26 $\mu\text{g/L}$



6 10 µg/L 100 µg/L 1000 µg/L  
 6 2.4% 9.5% 3.5%  
 7.8% 1.6% 8.4% 7.6% 4.8% 8.4% 2 µg/L  
 15 µg/L 143 µg/L 3 µg/L 19 µg/L 265 µg/L  
 6 15 µg/L  
 10 µg/L 100 µg/L 6 0.8% 9.8%  
 2.2% 4.7% 0.9% 6.5% 8.4% 4.3% 6.9%  
 2 µg/L 3 µg/L 12 µg/L 4 µg/L 4 µg/L 24 µg/L

10.2

6 10 µg/L 100 µg/L  
 91.5% 106% 92.9% 109% 97.4% 13.0% 98.7%  
 12.4%  
 6 10 µg/L 100 µg/L  
 89.4% 103% 92.9% 107% 98.7% 10.2% 100%  
 9.6%  
 6 10 µg/L 100 µg/L  
 88.5% 105% 85.0% 108% 97.7% 12.0% 97.6%

16.6%

6 10 µg/L 100 µg/L 1000 µg/L  
 84.6% 105% 92.3% 106% 89.7%  
 111% 96.6% 14.4% 98.9% 9.4% 97.9% 16.8%  
 6 15 µg/L  
 10 µg/L 100 µg/L 87.0% 108% 87.7% 107%  
 97.7% 15.4% 95.8% 13.4%

11

11.1

20 20 /

11.2

0.995 20 20 / 5  
 20%

11.3

6

20                      20     /                      20%

11.4

20                      20     /

70%   130%

12

