λ^{n}). H , *n* - . I , (*N*,*N* - -*co*-4-) ((B -*co*-4- P)) w . T w , . T w . T w 4- P .

Keywords: M ( ); 4- ; F - ; .

INTRODUCTION

T [1, 2]. I ,

[3].

, , . - w [4, 5]. T

[6, 7]. I , w 2.5% [6], .

O w 25.1 G / w 1 G , , w 3.4% ($\bar{R}$) 56.2 , w 4- (4- P, 0.04 /L) *N*,*N* - (B , 0.2 /L) - γ- [8]. , γ- ,

- , .

T 4- P w B [9] [10].

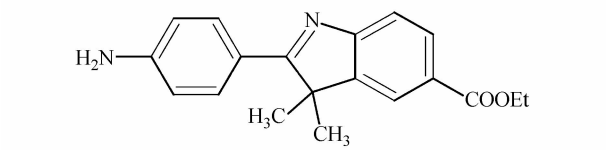
* T w w N N F C (N . 90206020 29901001).
** C : - (沈兴海), E- : @ . .
R N 29, 2004; R J 28, 2005; A F 2, 2005

, 4- P
.

EXPERIMENTAL

Materials

B (B C R C ,) w
. 4- P (M , > 96%) w . E 2-(4-)-3,3- -3H-
-5- , w F .1, w
11 , R . 11 . P
(KC), (K_2 O_4), (M C_2), (HC),
(HA), , L- (L-P), (NH_3) (B C R C ,
) w . w .



Ethyl 2-(4-aminophenyl)-3,3-dimethyl-3H-indole-5-carboxylate

Fig. 1 C

Preparation of Microgels

T B , 4- P w . A w
, w (: 15) , w
- N_2 20 O_2,
^{60}C w w F . **T** w
w . $\overline{R}$ (56 152)
R . 8 . I ,
w 4- P : B = 1:5 w , w
.

UV-Vis Spectra

F (KC , K_2 O_4, M C_2, HC , HA ,
L-P , NH_3) w , w w . A
, - w 380 810 w -3010 (H ,
J) w 1 . w .
F - , w [12, 13]:

$$A = K\lambda^{-n} \tag{1}$$

$$A = K - n \lambda \tag{2}$$

w A , K
, λ w , n . I λ/10 (R
), n 4. A , n
. I w , n [12, 13]. B
E . (2), n . **T** w
2%–3%.
F 2 w w 380
800 w w .
I A w /λ. **T** , n
.

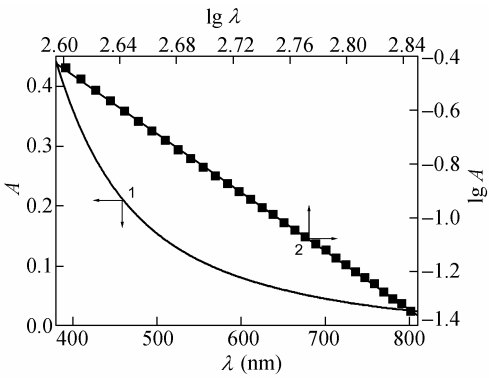


Fig. 2 (1)
w *A* *λ* (2)
D : 1 G ; D R : 23.5 G / ; 4- P : B = 1:5; 4- P + B = 0.24 /L

Absorbance at 547 nm

w w . A , (*A*) 547 w w w . A (4000 /) 30 , (*A*) w w . **T** w *A* *A* w :

$$\Delta A = A - A \tag{3}$$

T , Δ*A* w . **T** w 2%–3%.

Zeta Potential (ζ)

T *ζ* w (B I C) 25 C. **T** w w KC (0.01 /L).

Conductometric Titration

A w w . A , w HC w (17.0 0.1) C DD -307 C M (, C) N_2 . F , 4- P . P K 4- P 4- w K 7.98 [14] , 4- P 4- P .

Fluorescence Spectra

A w , (H = 8.5) w . B w R . 15 . A , w F-4500 F (H , J). **T** w 360 , w w 10 , w . **T** w 1200 / .

RESULTS AND DISCUSSION

Effects of Additives on the Stability of the Microgel Dispersion

F 3 w w Δ*A* KC . O w KC , w

KC — . T w
KC , . T w
n KC . O w KC w
, KC
KC . T
w ΔA KC . I
(*N*-) (PNIPAM) , w
w [6].

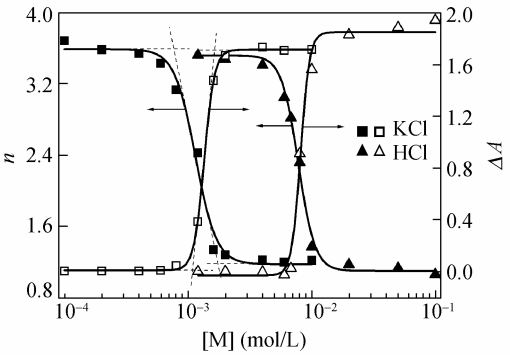


Fig. 3 C ΔA M *n* M
M . T
F . 2.

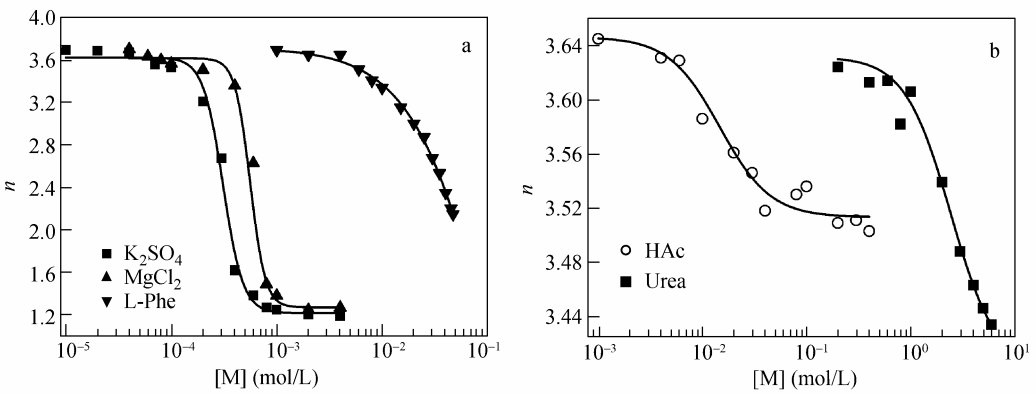


Fig. 4 C *n* M
) N - ;) w -
M . T
F . 2.

, HC , w F . 3
w . B *n*
, , - . T

. T , - w
. K2 O4, M C 2, HA , , L-P NH3 w
KC HC . A F . 4 5,
T 1.
F 4( ) T 1 w
K2 O4 w , 1/2M C 2 KC .

I , w . T , . T , w w (1.0 0.2) , w (*N*- -) (PNIPAM) -w [7]. T H w 4.3 10^{-20} J (*ccc*) w [7]:

$$\gamma = \frac{(\frac{z\psi}{2kT}) - 1}{(\frac{z\psi}{2kT}) + 1} \tag{4}$$

$$ccc = \frac{98500\varepsilon^3 k^5 T^5 \gamma^4}{N_A \quad ^6 A \quad ^2 z^6} \tag{5}$$

$$A \quad ^{1/2} = A^{1/2} - A_w^{1/2} \tag{6}$$

w *T* , ψ , *A* H , *A* H , A_w H w (3.7 10^{-20} J), N_A A , ε , *k* B , *z* . A , w . T , 4- P.

HC HA w , . T 1 w HC HA KC 1/2 M C $_2$. HC , , w HA w , w HC . F 4( ) w , w , - (3.51).

Table 1. C , (*n* Δ*A*)

		F -			
		C	C	Δ*A* C	Δ*A* C
( )					
		(/L)	(/L)	(/L)	(/L)
K_2 O_4		2.01 10^{-4}	4.76 10^{-4}		
1/2 M C $_2$		7.89 10^{-4}	1.60 10^{-3}		
KC		7.54 10^{-4}	1.70 10^{-3}	1.08 10^{-3}	1.70 10^{-3}
HC		5.35 10^{-3}	1.08 10^{-2}	6.76 10^{-3}	1.08 10^{-2}
HA		4.78 10^{-3}			
L-P		1.42 10^{-2}			
		9.52 10^{-1}			
NH_3	3	6.97 10^{-3}	1.65 10^{-2}		
	24	2.58 10^{-3}	9.26 10^{-3}		
	72	1.34 10^{-3}	6.39 10^{-3}		

I w w - .
F 4( ) w
, . T
w [15]. I
CONH B OH
γ- .
L-P w 5.48, w
. I
L-P COO^-
. T
. NH_3^+ COO^-
L-P . H w ,
L-P . w L-P
(F . 4).
T . T
L-P w . T
L-P w
.
T K NH_3 4.75 w 4- P 7.98 .
I NH_3 4- P .
T
. T NH_3 (F . 5).
B NH_3 4- P w , w. F 5
NH_3 .

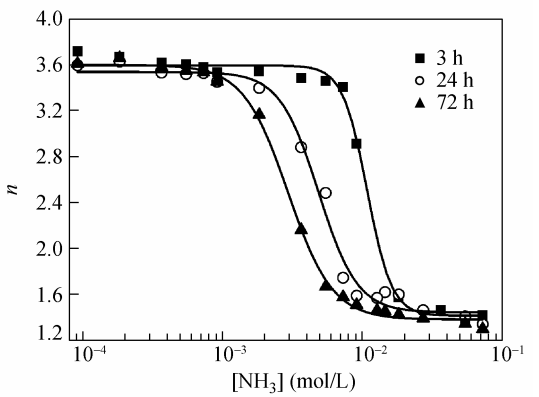


Fig. 5 E NH_3 *n*
T F . 2.

Charge and 4-VP Unit Content on the Surface of the Microgel

A , w - O_2
w / (9/1, *V*/*V*) 4- P,
w . T 4- P .
F 6 w w HC , w
w w , . I w
, HC 6.15 μ , w 4- P
(200 μ). -
4- P . B 4- P,
,

T 2. I
PNIPAM M *et al.* [16], w
w ζ. I
[17].

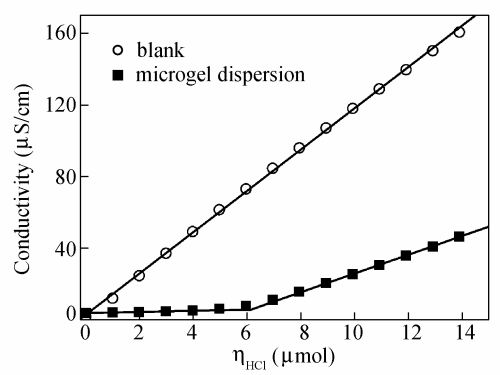


Fig. 6 C w HC
M : 5 L, HC = 0.01984 /L; T
F . 2.

Table 2. C 4- P

4- P : B (/5 L)	n_{HC} (μ /5 L)	4- P (μ /)	(μ /)
1:5	0.1771	6.15	34.7	0.10
PNIPAM				3.79 [16]

Hydrophobicity in the Microgels

I w , w 3H-
[15, 18–20]. I w 3H- w
. H , 2-(4-)-3,3- -3H- -5- ,
3H- , w w
4- P . T 3H- w *kT*
. T
w 1 . A INDO/ -
, w
w (TICT) [21, 22]. I w ,
TICT , w
TICT (*I*) [20]. F 7 w
I w 4- P . I
w , w 4- P . w
- (4-) (P4 P) [23],
P4 P w w
. T , 4- P B
.
A , w
.

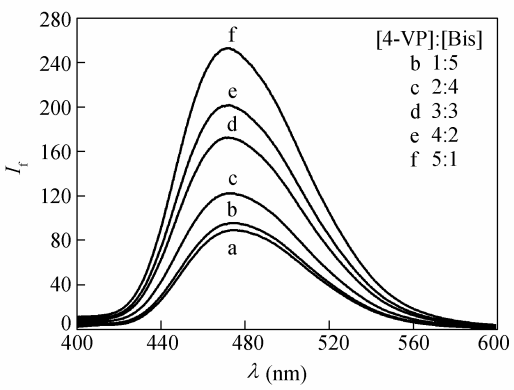


Fig. 7 E w ( )
w 4- P (–)
D : 3 G , D R : 23.5 G / ; 4- P + B = 0.24 /L

CONCLUSION

T ,
. T w
. T
w 4- P .

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