Таблица 1. Окислительное алкоксилирование P_4 в присутствии карбоксилатов и сульфатов Cu(II)

Состав раствора, моль/л						T, K	$\frac{Q}{[P_4]}$	Выход продуктов, %	
[Кт] × 10	[спирт]	[арен]	[добавка]	$[P_4] \times 10^2$	$[O_2] \times 10^4$			$(RO)_3P$; $(R'O)_2PHO$	$(RO)_3PO$; $(R'O)_3PO$
$Cu(C_3H_7CO_2)_2$	BuOH	PhMe	Py					$(BuO)_3P$	$(BuO)_3PO$
2.1	8.7	1.9	–	1.9	4.6	353	3.8	52.0	48.0
2.1	8.2	1.9	0.6	1.9	4.6	353	4.4	18.2	37.1
2.1	5.4	1.9	3.7	1.9	4.6	353	4.4	21.3	22.9
	i-PrOH							$(i\text{-PrO})_2PHO$	$(i\text{-PrO})_3PHO$
3.0	10.7	1.9	–	2.0	13.4	323	5.0	54.1	11.3
	i-AmOH		H_2O					$(i\text{-AmO})_3P$	$(i\text{-AmO})_3PO$
2.1	4.6	1.9	–	1.9	4.2	353	4.4	59.0	41.0
2.1	4.5	4.7	0.6	1.9	4.2	353	5.0	–	17.4
2.1	4.1	4.7	2.8	1.9	4.2	353	5.0	–	11.6
2.1	3.7	4.7	5.6	1.9	4.2	353	5.0	–	5.8
$Cu(C_{17}H_{35}CO_2)_2$	BuOH	PhH						$(BuO)_3P$	$(BuO)_3PO$
0.8	3.3	7.9	–	1.3	6.5	343	4.5	38.0	60.0
1.2	3.3	7.9	–	1.3	6.5	343	4.4	20.0	80.0
1.6	3.3	7.9	–	1.3	6.5	343	4.3	20.0	80.0
1.6	9.8	2.3	–	1.2	6.5	343	4.1	58.2	32:0
1.3	8.2	2.8	–	2.0	6.5	343	4.2	30.4	60.8
1.2	7.5	3.4	–	0.9	6.5	343	4.6	10.7	84.0
1.1	7.0	4.0	–	0.85	6.5	343	4.5	20.0	74.4
1.0	6.5	4.5	–	0.8	6.5	343	4.9	–	100.0
	PrOH	PhMe						$(PrO)_3P$	$(PrO)_3PO$
0.8	4.0	6.6	–	1.4	13.2	323	4.8	82.3	17.7
0.8	4.0	6.6	–	1.4	10.3	333	4.9	74.3	25.7
0.8	4.0	6.6	–	1.4	7.8	343	5.1	82.3	17.7
1.2	4.0	6.6	–	0.7	10.3	333	4.9	53.0	47.0
1.2	4.0	6.6	–	2.1	10.3	333	4.7	87.3	12.7
0.3	4.0	6.6	–	1.4	10.3	333	5.0	84.3	15.7
$Cu(CH_3CO_2)_2$	*i*-AmOH							$(i\text{-AmO})_3P$	$(i\text{-AmO})_3PO$
2.0	6.4	2.8	–	0.9	–	343	–	68.2	30.3
3.0	6.4	2.8	–	0.9	–	343	–	46.0	53.9
4.0	6.4	2.8	–	0.9	–	343	–	39.2	60.8
5.0	6.4	2.8	–	0.9	–	343	–	20.4	79.6
1.0	6.4	2.8	–	0.9	9.9	323	3.7	24.0	59.2
1.0	6.4	2.8	–	0.9	5.9	343	4.1	37.5	52.2
1.0	6.4	2.8	–	0.9	4.2	353	4.4	3.9	82.9
	i-PrOH		Py					$(i\text{-PrO})_2PHO$	$(i\text{-PrO})_3PO$
0.2	5.4	1.9	2.5	2.2	13.4	333	4.8	93.0	4.4
$CuSO_4$	BuOH	PhH						$(BuO)_3P$	$(BuO)_3PO$
6.0	8.7	2.3	–	1.8	6.5	343	4.2	50.2	36.6
6.0	7.3	3.8	–	1.5	6.5	343	3.7	56.8	20.0
6.0	3.2	4.8	–	1.3	6.5	343	4.0	65.0	17.4