

山西大学-三雍集团
催化技术研究生教育创新中心
考核评价材料

山西省研究生教育创新中心考核评价定性指标

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 HBTHF(2-(4-)
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 2012 12
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 1. 1,4-
 2. 1,4-
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 4. 1,4- 3- -1- 5.1,4-
 γ - 6.
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γ- 1,4-
3- -1-

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3 THF PTMEG
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3200

1	X-ray	1
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4		1
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6		1
7		1
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9		2
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11		1
12		1
13		1

14		1	
15		1	
16		1	JY
17		1	
18	ICP	1	
19		1	

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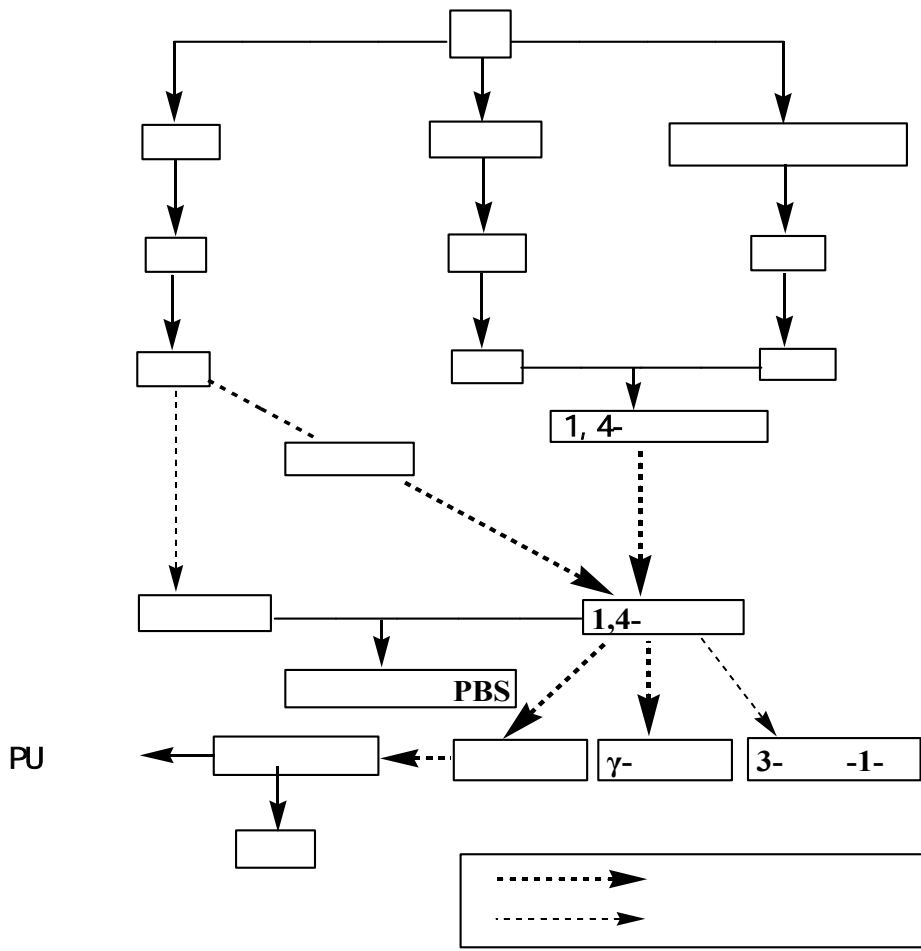
2000 ISP 1,4-

1,4- γ-

2008 --- ---

1,4- γ-

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1	4	
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1		1,4-	HBTHF
			1,4- HBTHF
0.3~0.9%	0.01%	99.9%	
		200	1,4-
2			
3		1,4-	
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		" "	
	1		2-3
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		2-3	
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07 " " 2004 2006 2008
 , " " 2009 "
 " 2009 " " 2012
 3 1 1,4-
 {2009}168 2
 Pd(Pt)/Co₃O₄-CeO₂ {2009}336
 3 THF
 {2009}340
 863 1 1,4- 1,4- -
 2005AA001050
 2
 魏 , 1966 11 1993
 2001.11
 2003.12
 M.F.Lappert Sussex
 1976
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J.Phys.Chem C, Green Chem. Appl.Catal. A 20
 J.Phys.Chem C, Green Chem. Appl.Catal. A

1,4- 3-
 -1-
 100% 98%
 1000 / Catalysis Today, Catalysis

Letters		20		7
			" "	
"	-Al ₂ O ₃		"	"
		"		"
973	"			"
	/			"
		"		
	863	" 1,4-	1,4-	---
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Microporous and Mesoporous

Materials	Catalysis Letters	Journal of Sol-Gel Science and Technology	Journal of
Porous Materials	Catalysis Today	SCI	10
	1	1	2
	863	1	3
			1
	1	30	6

2008

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PVA			PVA		PVA
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		2000	"	"	" 2.5 /
1,4-	"	2001			
2003	"	"	2002		"
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1,4-					2006 12
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		CeO ₂	1,4-	2012
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				2012
			1,4-	2013
		BDO		2013
		3-	-1-	
				2013
		BDO		2013
				2013
		Ni/TiO ₂		2013
		Pd-Cu/APT	CO	2013
			Sn-Si	2013
		TAPSO_5		2013

				2013
				2014
				2014
		1,4-		2014
		1,4-		2014
		Pd-Cu		2014
		CuO	1,4-	2014
				2014
		Ni/Al ₂ O ₃		2014
		Ni/SBA-15		2014

6 " " 2008

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		SiO ₂ THF		2008	2009	
		Al ₂ O ₃ Ni/Al ₂ O ₃		2008	2009	
		ZrO ₂ Ni/SiO ₂ CO		2008	2009	
		Ni/γ-Al ₂ O ₃		2008	2010	
		Ni-Fe/γ-Al ₂ O ₃ CO		2008	2010	
				2008	2010	
				2008	2010	
		MCM-41		2008	2010	
		1,4- 3- -1-		2008	2010	
				2008	2011	
		SBA-15		2008	2011	
		1,4-		2008	2011	
		M(Al Zr Bi)-PHTS		2008	2011	
				2008	2011	
				2008	2011	
		Ni/TiO ₂ -SiO ₂		2009	2011	
		ZrO ₂ -SiO ₂ THF		2009	2011	
				2010	2011	
		CuO-Bi ₂ O ₃ /MgO-SiO ₂		2010	2011	

		1,4-			
		Ni-Mn/ γ -Al ₂ O ₃ CO ₂		2009	2011
		Cp-PMO Co-PMO		2009	2011
		HPW SBA-15 THF		2009	2011
		ZrO ₂ THF		2009	2011
		Ni-Cu/Al ₂ O ₃		2010	2012
		Ni/CCA		2010	2012
		CuO-Bi ₂ O ₃ /SiO ₂ -MgO		2010	2012
		SiO ₂ /Al ₂ O ₃ Ni/SiO ₂ -Al ₂ O ₃		2011	2012
		PHTS		2011	2012
		Ni-Ce/SiO ₂ CO		2010	2012
		Pd-Cu/ CO		2010	2012
		SiO ₂		2010	2012
		- Sn-Si		2010	2012
		ZrO ₂ 1,4- 3- -1-		2010	2013
		Ni/TiO ₂		2011	2013
		Ni/ZrO ₂		2011	2013
		1,4- 3- -1-		2011	2013
		SnO ₂		2011	2013
				2011	2013
				2009	2014
				2012	2014

				2012	2014	
		1,4-		2012	2014	
		1,4-		2012	2014	
		CuO 1,4-		2012	2014	
		1,4-		2012	2014	
		Ni/CCA		2013	2014	
		Sn-PHTS THF		2013	2014	
		ZrO2 Ni		2013	2014	
				2013	2014	

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91% 96%

0.25% 0.15% 6-8

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BASF

2009 "

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2.5 / 5 / 5 /
 12 / 51.5 /
 2 1,4- 2-(4-
)- HBTHF 1,4-
 HBTHF

1,4- 2-(4-)-
 0.3%~0.9% 100 ppm (1 mol 2-(4-)-
 2 mol 1,4-) 1,4- 99.8%
 1,4-
 200 1,4-
 — Davy

1,4-
 — 1,4-

3 2009 " "

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1. 1,4-

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2			3	
3	“ ”	10		
4	“ ”		18	
5	“ ”		6	
6	“ ”		21	
7			60	
8				2
9	“ ”		5	
10	“ ”		800	
11	“ ”		0	
12	“ ”		550)
13			8	
14	“ ”			50
15	“ ”		49	
16				4390
17	“ ”		25	
18	“ ”			1
19	“ ”		3	
20	“ ”		0	
21	“ ”		0	