Poster Presentation

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Synthesis and Catalytic Properties of Gold(III) Complexes with Triazine Ligand

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Gold catalysts were found to have high catalytic activities.[1] They can be stabilized by ligands such as triazine, bipyridine, or terpyridine.[2] It was found to be an effective catalyst in the addition of nucleophiles to triple bonds. In relation to this work, we have adopted 2,4-diamino-6-(2-pyridyl)-1,3,5-triazine 1 to form the gold(III) complex 2.[3] The gold(III) complex 2 was characterized and it demonstrated catalytic hydration of aromatic alkyne (yield 10~80%). We have optimized the condition with the use of a mixture of water and methanol (v:v, 1:5) as the solvent system with catalytic amount of sulfuric acid. The reaction was carried out at 65 ºC for 1 hour unless specify. The catalytic results were compared with KAuCl4.

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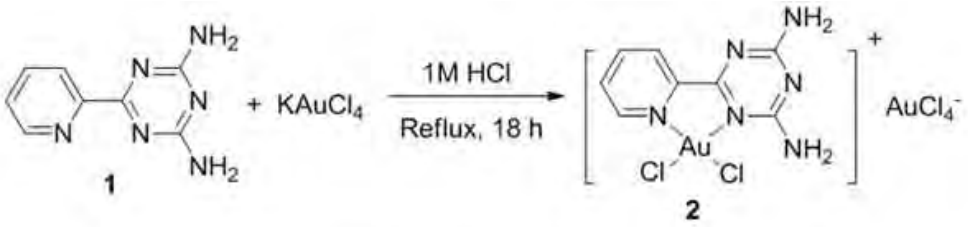

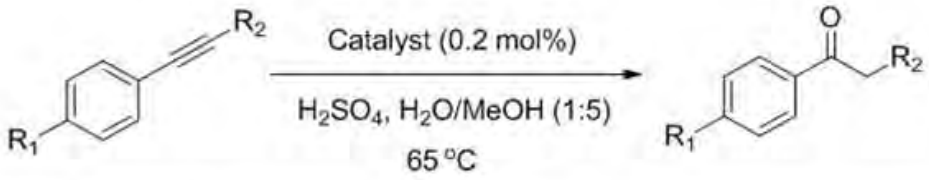

Entry	R_1	R_2	Catalyst	Time (h)	Yield (%)
1	H	H	$KAuCl_4$	1	10
2	H	H	**2**	1	36
3	OCH_3	H	$KAuCl_4$	1	40
4	OCH_3	H	**2**	1	57
5	CH_3	H	$KAuCl_4$	1	30
6	CH_3	H	**2**	1	9
7	F	H	$KAuCl_4$	1	42
8*	F	H	**2**	1	73
9	H	Ph	$KAuCl_4$	24	5
10	H	Ph	**2**	24	7

(*For entry 8, 2 mol% of catalyst **2** was used)

Keywords: Gold, Triazine, Catalysis