

Supporting information

Influence of Au/Pd alloy on amine functionalised ZnCr LDH-MCM-41 nanocomposite; a visible light sensitive photocatalyst for one-pot Imines synthesis

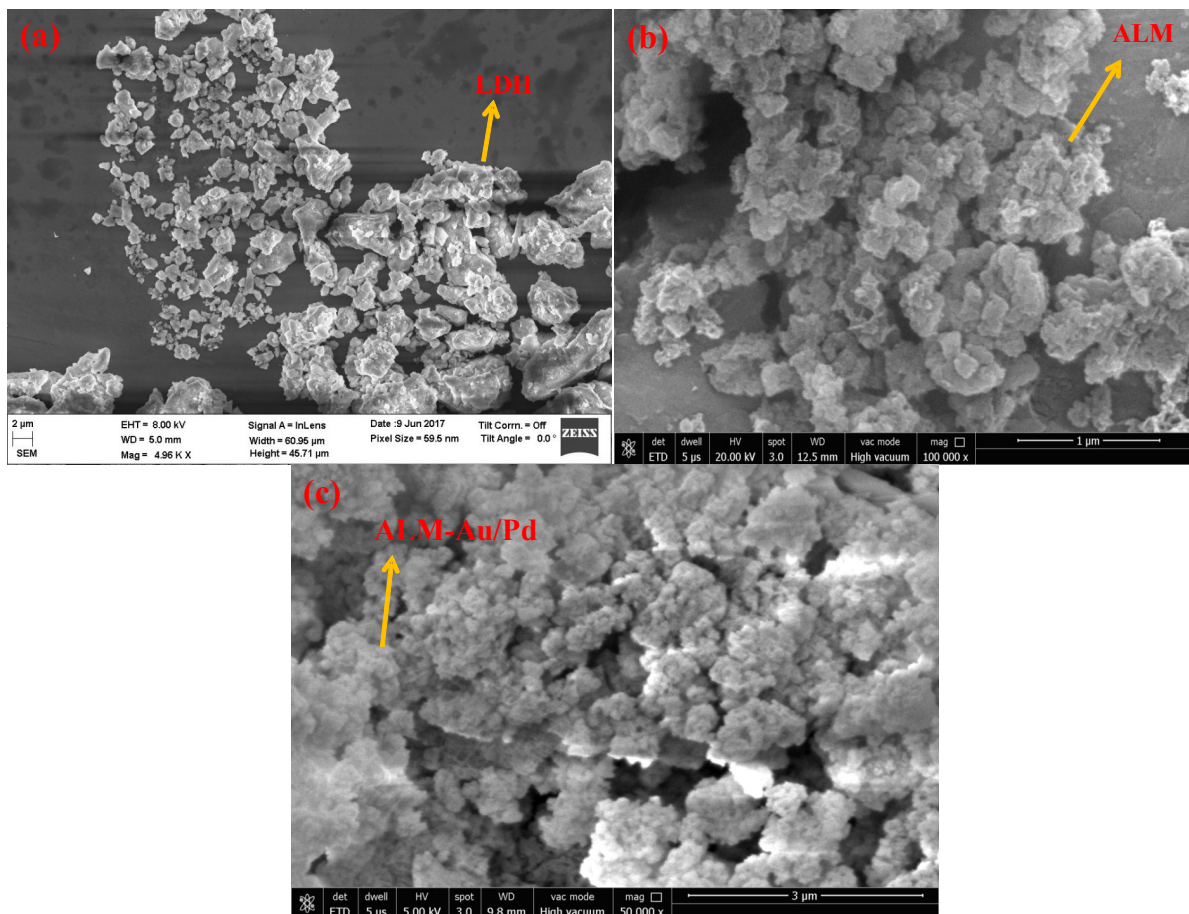


Fig. S1 SEM images of (a)LDH, (b)ALM and (c) ALM-Au/Pd

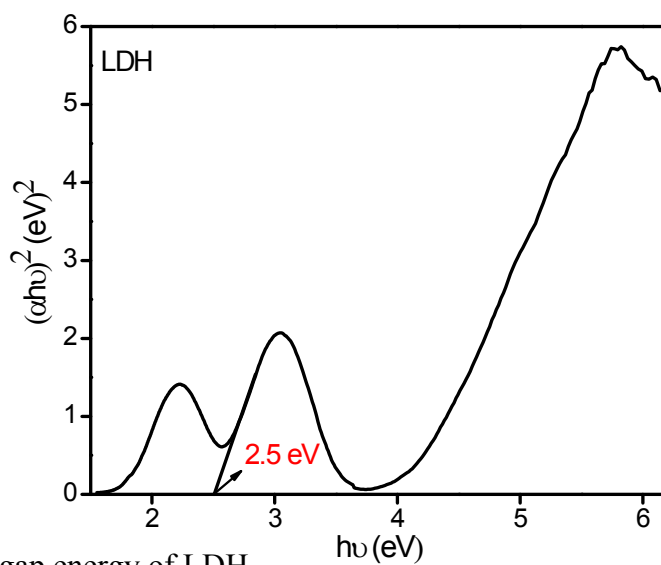


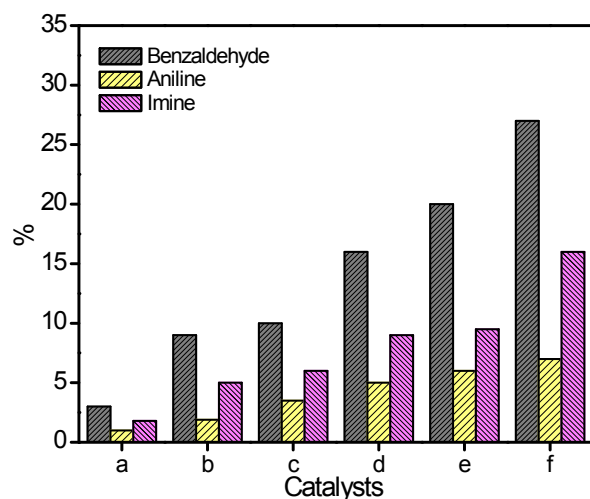
Fig. S2 Band gap energy of LDH

Table. S1 photocatalytic benzyl alcohol conversion

Catalysts	Benzyl alcohol Conversion (%)	Benzaldehyde Yield(%)	Benzaldehyde Selectivity(%)
AL _{0.2} M	19	17	79
AL _{0.33} M	27	24.5	85
AL _{0.5} M	35.5	33.7	88
ALM	48.7	46	88

Table. S2 photocatalytic one-pot imine synthesis from benzyl alcohol and nitrobenzene conversion

Catalysts	Conversion (%)		Yield (%)			Imine Selectivity (%)
	Benzyl alcohol	Nitrobenzene	Benzaldehyde	Aniline	Imine	
MCM-41	11	12.8	5.1	2	3.9	76
LDH	48	53.1	45	15	22	80
ALM	56.3	62	51.3	22	31	82
ALM-Pd	71	75	68	23	47.6	84
ALM-Au	82.8	86.4	77	23.7	51.3	85
ALM-Au/Pd	96	99	89	20	68	86

**Fig. S3** Yield of benzaldehyde, aniline and imine over (a) MCM-41, (b) LDH, (c) ALM, (d)ALM-Pd, (e) ALM-Au and (f) ALM-Au/Pd under dark condition.