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Title:	Dual emission and multi-stimuli-response in iridium(iii) complexes with aggregation-induced enhanced emission: applications for quantitative CO ₂ detection
Authors:	Kaur, Gurpreet (/jspui/browse?type=author&value=Kaur%2C+Gurpreet) Choudhury, A.R. (/jspui/browse?type=author&value=Choudhury%2C+A.R.)
Keywords:	Iridium(iii) Dual emission Aggregation
Issue Date:	2017
Publisher:	Royal Society of Chemistry
Citation:	Journal of Materials Chemistry C, 5(31), pp. 21820-21827
Abstract:	Four new Ir(III) complexes with the general formula [IrHCl(C ^N)(PPh ₃) ₂] containing different conjugated Schiff base ligands (C ^N) have been synthesized and characterized by ¹ H, ¹³ C, and ³¹ P NMR, HRMS, and IR spectra and one of them by single crystal X-ray diffraction. Their photophysical properties in solution and in the solid state have been analyzed and three main practical results have been obtained: (i) a dual fluorescent and phosphorescent emissive complex in solution, (ii) successful acid/base sensing in the solid state and (iii) quantitative CO ₂ detection. Quantum chemical calculations have been employed to assign the character of the lowest excited states. A plausible explanation for the observed aggregation induced enhanced emission (AIEE) is given, based on the restriction of intramolecular motions due to the effect of intermolecular C–H...π and C–H...Cl type interactions upon aggregation.
Description:	Only IISERM authors are available in the record.
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