Electronic supplementary information for

Imidazole-graphyne: A new 2D carbon nitride with a direct bandgap and strong IR refraction

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Fig. S1 Three configurations of ID-GY with the relative energy ΔE respective to configuration I. Brown and blue spheres represent C and N atoms, respectively.

	Atoms	Х	Y	Z	Wyckoff positions
	Ν	0.90282	0.72884	0.50000	8j
	C1	0.29877	0.71690	0.50000	8j
	C2	0.61437	0.11437	0.50000	4h
er Bound	C3	0.28702	0.60357	0.50000	8j
	C4	0.27045	0.50389	0.50000	8j
	C5	0.53622	0.03622	0.50000	4h

Fig. S2 Inequivalent C atoms and N atom with Wyckoff positions in ID-GY. Brown and blue spheres represent C and N atoms, respectively.



Fig. S3 Absorption coefficient of cp-graphyne.