



**Fig. S1** Variation of spectral intensity with relative humidity. Lateral light collection with laser energy 30 mJ. The black lines in (a), (b) are the intensities of Cu I 510.55 and 570.02 nm, respectively, and the blue line is the intensity of H I 656.28 nm. The collecting path was along G3-F3-L2 as in Fig. 1.

**Table S1** Variation of intensity of Cu I 510.55 nm and H I 656.27 nm with relative humidity. Laser energy was 30 mJ. Emission was collected from different angles.

Collecting angle	Energy (mJ)	Intensity of Cu I 510.55 nm (a.u.)			Intensity of H I 656.27 nm (a.u.)		
		$I_{RH_L}^{Cu}$	$I_{RH_H}^{Cu}$	$R^{Cu} = \frac{I_{RH_H}^{Cu}}{I_{RH_L}^{Cu}}$	$I_{RH_L}^H$	$I_{RH_H}^H$	$R^H = \frac{I_{RH_H}^H}{I_{RH_L}^H}$
Horizontal (Fig. S1)		20067	22995	1.15	1308	2255	1.72
70 degree with the horizontal plane (Fig. 1)	30	8603	10623	1.23	6567	10768	1.64