

# REPORTS

## A multiband perfect absorber based on hyperbolic metamaterials

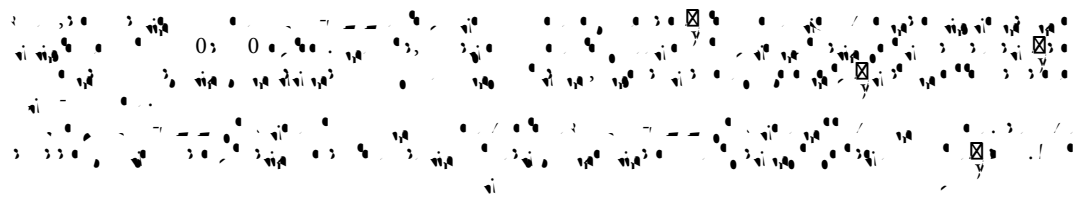


range. In addition, we report a direct ap-  
plasmonic sensor with a record figure of













### Optical characterizations.

Optical characterizations were performed using a JDSU J8000 FTIR spectrometer with a resolution of 4 cm<sup>-1</sup> and a scan range of 4000–600 cm<sup>-1</sup>. The samples were prepared as KBr pellets. The FTIR spectra were recorded at room temperature. The absorbance spectra were recorded using a Shimadzu UV-1601U ultraviolet-visible (UV-Vis) spectrophotometer. The absorbance spectra were recorded at room temperature. The absorbance spectra were recorded using a Shimadzu UV-1601U ultraviolet-visible (UV-Vis) spectrophotometer. The absorbance spectra were recorded at room temperature.

### Numerical simulations.

Numerical simulations were performed using the finite-difference time-domain (FDTD) method. The simulations were performed using the software package Lumerical FDTD Solutions. The simulations were performed using the software package Lumerical FDTD Solutions. The simulations were performed using the software package Lumerical FDTD Solutions. The simulations were performed using the software package Lumerical FDTD Solutions.

### References

1. Zhang, Y. & Zhang, Y. *Nat. Mater.* **9**, 1001–1002 (2010).
2. Zhang, Y. & Zhang, Y. *Phys. Rev. Lett.* **104**, 010401 (2010).

