



**Extended Data Figure 1 | Pulse profiles and spectra of 16 Arecibo bursts.** The bursts are dedispersed to  $DM = 559.7 \text{ pc cm}^{-3}$  (which minimizes the width of burst 6) and plotted with time and frequency resolutions of  $20.48 \mu\text{s}$  and  $6.24 \text{ MHz}$ , respectively.