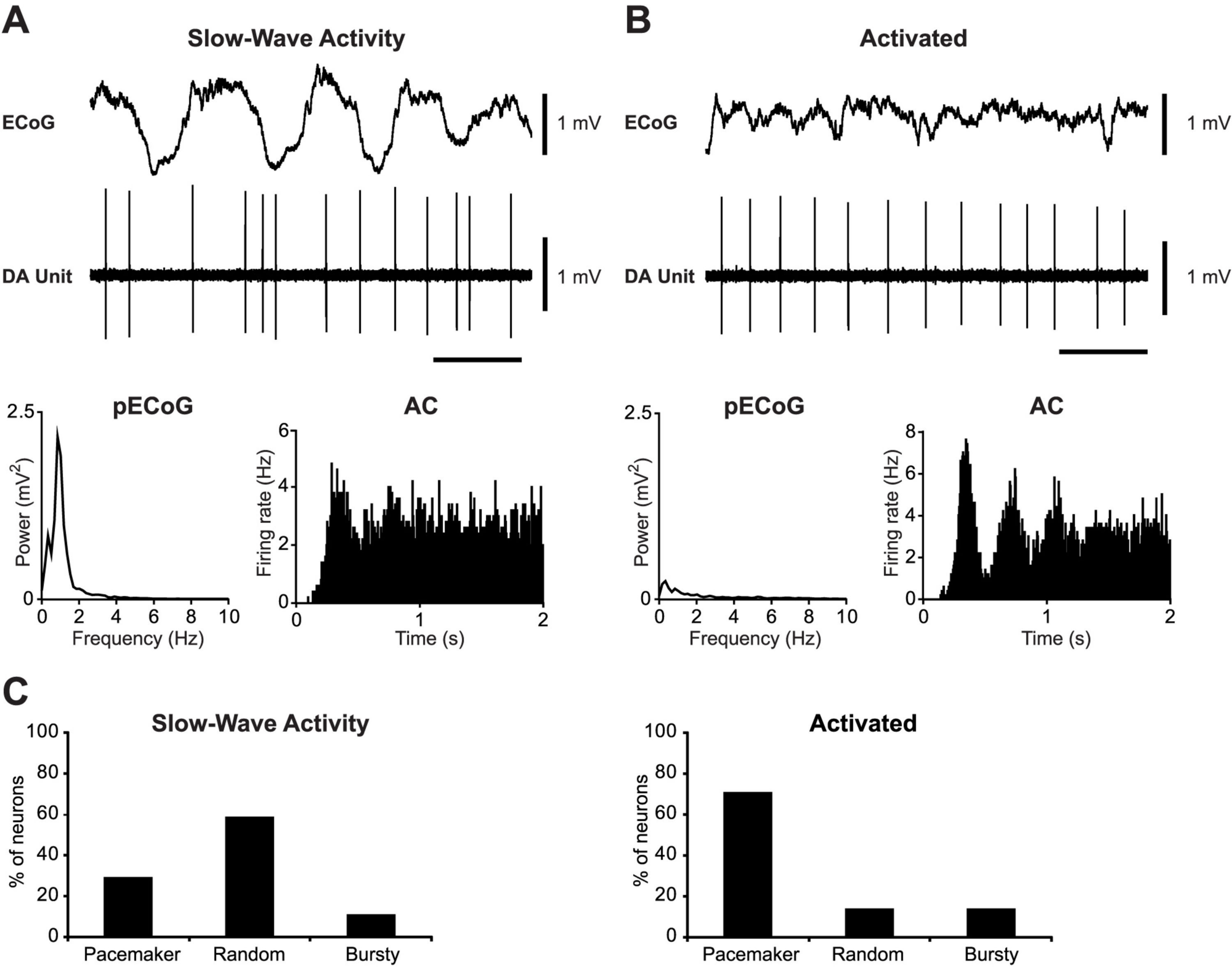
Brown *et al*., Activity of neurochemically heterogeneous dopaminergic neurons
in the substantia nigra during spontaneous and driven changes in brain state



Supplemental Fig. 1. Identified dopaminergic neuron activity during two different brain states. (A) Activity of an identified dopaminergic neuron (DA Unit) during slow-wave activity (SWA) in the cortex (ECoG). Unit activity was categorized as "random" using the autocorrelogram (AC) constructed from 1000 spikes using 5 ms bins. (B) During the same recording session, and recording from the same neuron as in A, a spontaneous shift to an activated brain state (defined by the absence of the large ~1 Hz cortical slow oscillation; see power spectra (pECoG)) was associated with a change in the neuron's firing pattern, and a re-categorization to "pacemaker", as shown by the 3 equally-spaced peaks in the AC. (C) Most neurons recorded during SWA engaged in random firing. However, the firing pattern distribution became skewed in favor of pacemaker firing when neurons were recorded during the activated state. (D) No obvious differences in the firing patterns of CB-negative and CB-positive neurons were observed during either SWA or the activated brain state.