H.W. #11 EE 420/ECG 620 Spring 2019

Show your work for credit and put a box around each of your answers (follow the hw guidelines!) Unless otherwise indicated use the book's long-channel (1 um) process.

1. Work book problems 20.10 and 20.16. (4 points)

2. Sketch the PMOS equivalent of the circuit seen in Fig. 20.40. Show the details how to determine the small-signal output resistance of the resulting current mirror. (4 points)

3. Design and simulate (both DC and transient) the operation of a BMR using the topology seen in Fig. 20.22 using minimum length devices (1u) for a bias current of 10uA. (4 points)