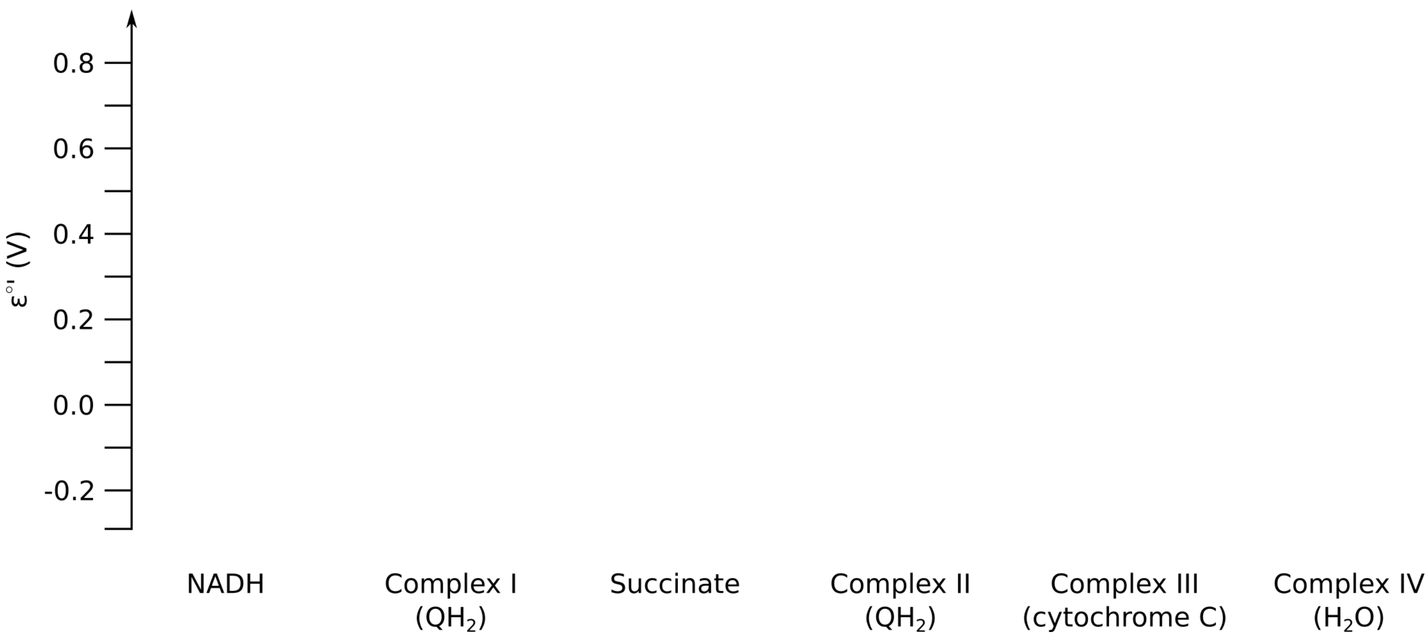
oxidized form		reduced form	n	$\varepsilon^{\circ\prime}$ (V)
$NAD^+ + H^+ + 2e^-$	$\rightarrow$	$NADH$	2	-0.32
fumarate + $2H^+ + 2e^-$	$\rightarrow$	*succinate*	2	0.03
$Q + 2H^+ + 2e^-$	$\rightarrow$	QH_2	2	0.04
cytochrome c $(Fe^{3+}) + e^-$	$\rightarrow$	*cytochrome c* (Fe^{2+})	1	0.24
$\frac{1}{2}O_2 + 2H^+ + 2e^-$	$\rightarrow$	H_2O	2	0.82

transfer reaction			protons	Location
$NADH$	$\rightarrow$	QH_2	4	Complex I
succinate	$\rightarrow$	QH_2	0	Complex II
QH_2	$\rightarrow$	2 *cytochrome C*	4	Complex III
2 *cytochrome C*	$\rightarrow$	H_2O	2	Complex IV



1. Fill in the diagram above. Label the proton transfer events.
2. Why does succinate have to enter at complex II rather than complex I?
3. Which step extracts the most useful energy for generating ATP per V? Does this surprise you?