

**Supplemental Table S1.** Morphine milligram equivalents conversion factor list

	Conversion factor
Morphine Sulfate Hydrate (po)	1.0
Morphine Hydrochloride Hydrate (po)	1.0
Morphine Hydrochloride Hydrate (iv)	2.0
Oxycodone Hydrochloride Hydrate (po)	1.5
Oxycodone Hydrochloride Hydrate (iv)	2.0
Hydromorphone Hydrochloride (po)	5.0
Hydromorphone Hydrochloride (iv)	15.0
Tapentadol Hydrochloride (po)	0.3
Tramadol Hydrochloride (po)	0.2
Tramadol Hydrochloride • Acetaminophen (po)	0.2
Codeine Phosphate Hydrate (po)	0.15
Fentanyl Citrate transdermal	30.0
Fentanyl Citrate (iv)	100.0

iv, intravenous administration; po, per OS.