

	Defect (DIV)	Cooperate (wild type)
Defect (DIV)	0	$1 + s_2$
Cooperate (wild type)	$1 - s_1$	1

FIGURE 20.15. The payoff matrix for the game played between a defective interfering virus (DIV) and its wild-type form. In more general terms, this involves a cooperator (a virus that produces the proteins needed for replication and transmission), and defectors (viruses that “cheat” by using proteins coded by intact virus). If two DIVs infect a cell, they cannot replicate (*top left*), but if a DIV infects a cell together with a wild-type virus, it will outcompete the latter (*top right*, $0 < s_2$). Conversely, a wild-type virus will be at a disadvantage in a mixed infection ($0 < s_1 < 1$, *bottom left*).