

MICHAEL DONORS AND ACCEPTORS

TABLE 22-2
Some Common Michael Donors and Michael Acceptors

<i>Michael Donors</i>		<i>Michael Acceptors</i>	
$\begin{array}{c} \text{O} \quad \quad \text{O} \\ \parallel \quad \quad \parallel \\ \text{R}-\text{C}-\overset{\ominus}{\text{C}}\text{H}-\text{C}-\text{R}' \end{array}$	β -diketone	$\begin{array}{c} \text{O} \\ \parallel \\ \text{H}_2\text{C}=\text{CH}-\text{C}-\text{H} \end{array}$	conjugated aldehyde
$\begin{array}{c} \text{O} \quad \quad \text{O} \\ \parallel \quad \quad \parallel \\ \text{R}-\text{C}-\overset{\ominus}{\text{C}}\text{H}-\text{C}-\text{OR}' \end{array}$	β -keto ester	$\begin{array}{c} \text{O} \\ \parallel \\ \text{H}_2\text{C}=\text{CH}-\text{C}-\text{R} \end{array}$	conjugated ketone
R_2CuLi	dialkyl cuprate	$\begin{array}{c} \text{O} \\ \parallel \\ \text{H}_2\text{C}=\text{CH}-\text{C}-\text{OR} \end{array}$	conjugated ester
$\begin{array}{c} \diagup \\ \text{N}: \\ \diagdown \\ \quad \diagup \quad \diagdown \\ \quad \text{C}=\text{C} \end{array}$	enamine	$\begin{array}{c} \text{O} \\ \parallel \\ \text{H}_2\text{C}=\text{CH}-\text{C}-\text{NH}_2 \end{array}$	conjugated amide
$\begin{array}{c} \text{O} \\ \parallel \\ \text{R}-\text{C}-\overset{\ominus}{\text{C}}\text{H}-\text{C}\equiv\text{N} \end{array}$	β -keto nitrile	$\text{H}_2\text{C}=\text{CH}-\text{C}\equiv\text{N}$	conjugated nitrile
$\begin{array}{c} \text{O} \\ \parallel \\ \text{R}-\text{C}-\overset{\ominus}{\text{C}}\text{H}-\text{NO}_2 \end{array}$	α -nitro ketone	$\text{H}_2\text{C}=\text{CH}-\text{NO}_2$	nitroethylene