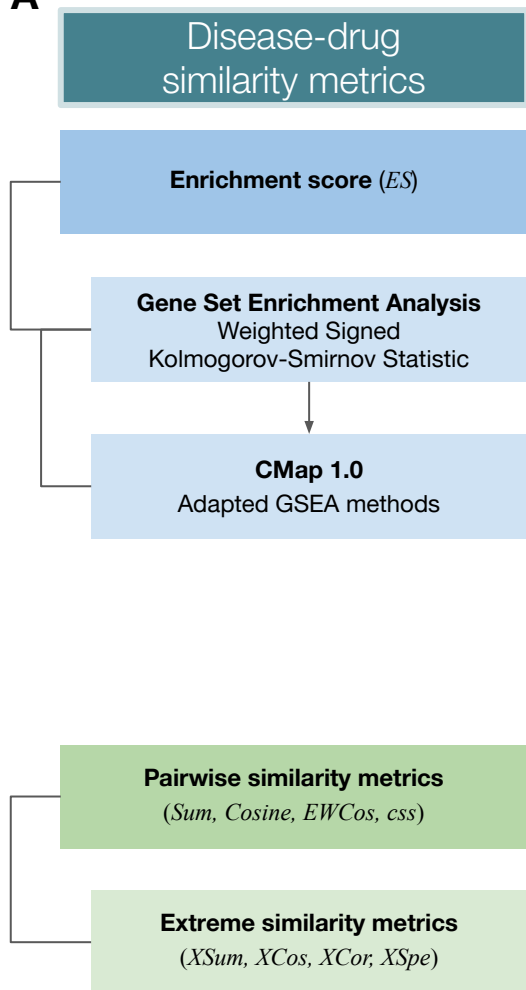
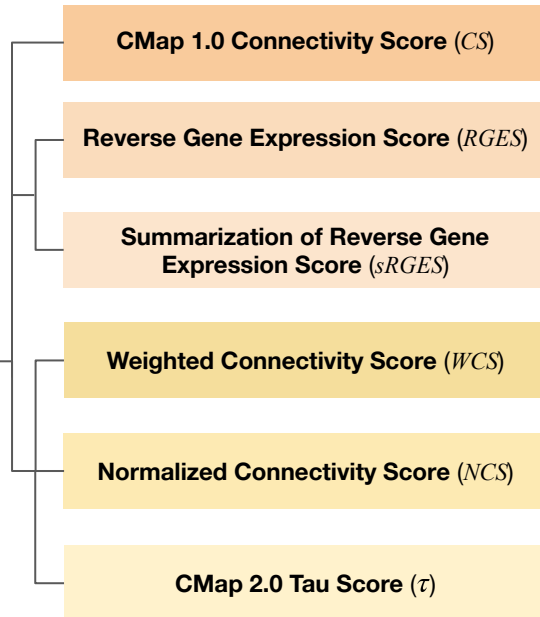


A



Disease-drug connectivity scores



B

ES_{up} & ES_{down}	cs	CS
Same sign	0	0
Different signs	$ES_{up} - ES_{down}$	$cs / \max(cs)$, if $cs > 0$ $-cs / \min(cs)$, if $cs < 0$
$RGES = ES_{up} - ES_{down} $		
$sRGES = \sum_t^{N_d} (RGES(t) + f(dose(t), time(t))) \times \frac{w(t)}{N_d}$		
ES_{up} & ES_{down}	WCS	
Same sign	0	
Different signs	$(ES_{up} - ES_{down}) / 2$	
$NCS = \begin{cases} WCS/\mu_{c,dt}^+ & , \text{ if } sign(WCS) > 0 \\ WCS/\mu_{c,dt}^- & , \text{ otherwise} \end{cases}$		
$\tau = sign(NCS) \frac{100}{N_D} \sum_{k=1}^{N_D} [NCS_k < NCS]$		
Signatures	CSS	
\vec{R}, S	$css(\vec{R}, S) / css_{max}^u(N_R, N_S)$	
\vec{R}, \vec{S}	$css(\vec{R}, \vec{S}) / css_{max}^o(N_R, N_S)$	
$EMUDRA = \sum_i z_i$ where i = similarity metrics		

t : treatment instances

C

