List of Logical Equivalences

Let p, q, r be statement variables, let $\boldsymbol{t}$ be a tautology, and let $\boldsymbol{c}$ be a contradiction.

identity laws	$p \wedge \boldsymbol{t} \equiv p$ $\quad$ $p \vee \boldsymbol{c} \equiv p$
domination laws	$p \vee \boldsymbol{t} \equiv \boldsymbol{t}$ $\quad$ $p \wedge \boldsymbol{c} \equiv \boldsymbol{c}$
negation laws	$p \vee \neg p \equiv \boldsymbol{t}$ $\quad$ $p \wedge \neg p \equiv \boldsymbol{c}$
negations of $\boldsymbol{t}$ and $\boldsymbol{c}$	$\neg \boldsymbol{t} \equiv \boldsymbol{c}$ $\quad$ $\neg \boldsymbol{c} \equiv \boldsymbol{t}$
commutative laws	$p \wedge q \equiv q \wedge p$ $\quad$ $p \vee q \equiv q \vee p$
associative laws	$(p \wedge q) \wedge r \equiv p \wedge (q \wedge r)$ $(p \vee q) \vee r \equiv p \vee (q \vee r)$
distributive laws	$p \wedge (q \vee r) \equiv (p \wedge q) \vee (p \wedge r)$ $p \vee (q \wedge r) \equiv (p \vee q) \wedge (p \vee r)$
idempotent laws	$p \wedge p \equiv p$ $\quad$ $p \vee p \equiv p$
double negation law	$\neg(\neg p) \equiv p$
de morgan's laws	$\neg(p \wedge q) \equiv (\neg p) \vee (\neg q)$ $\neg(p \vee q) \equiv (\neg p) \wedge (\neg q)$
absorption laws	$p \vee (p \wedge q) \equiv p$ $\quad$ $p \wedge (p \vee q) \equiv p$