Open-shop problems with transportation delays

- **maximal polynomially solvable:**

$O\|p_{ij}=1;t_{ikl}=T\|C_{max}$	Rayward-Smith & Rebaine (1992) [12]
$O2\|\|C_{max}$	Gonzalez & Sahni (1976) [5]
$O2\|p_{ij}=1;t_{ikl}=T;r_i\|C_{max}$	Brucker et al. (2004) [3]
$O2\|p_{ij}=1;t_{kl}\|C_{max}$	Knust (1999) [6], Brucker et al. (2004) [3]
$O\|p_{ij}=1;r_i\|L_{max}$	Brucker et al. (1993) [4], Networkflowproblem
$Om\|p_{ij}=1;r_i\|\sum C_i$	Tautenhahn & Woeginger (1997) [13]
$O\|p_{ij}=1\|\sum w_iC_i$	Brucker et al. (1993) [4]
$O2\|p_{ij}=1;t_{kl}\|\sum w_iC_i$	Brucker et al. (2004) [3]
$O\|p_{ij}=1\|\sum U_i$	Liu & Bulfin (1988) [11]
$O2\|p_{ij}=1;t_{ikl}=T\|\sum U_i$	Brucker et al. (2004) [3]
$Om\|p_{ij}=1;r_i\|\sum w_iU_i$	Baptiste (2003) [2]
$O\|p_{ij}=1\|\sum T_i$	Liu & Bulfin (1988) [11]

- **minimal NP-hard:**

	$O2\|t_{ikl}=T\|C_{max}$	Yu (1996) [14]
	$O3\|\|C_{max}$	Gonzalez & Sahni (1976) [5]
*	$O\|\|C_{max}$	Lenstra (-) [10]
*	$O\|p_{ij}=1;t_{kl}=t_{lk}\|C_{max}$	Rayward-Smith & Rebaine (1992) [12]
*	$O2\|p_{ij}=1;t_i\|C_{max}$	Yu (1996) [14], Yu et al. (2004) [15]
*	$O2\|r_i\|C_{max}$	Lawler et al. (1981,1982) [8] [9]
*	$O2\|t_i\in\{T_1,T_2\}\|C_{max}$	Yu (1996) [14]
*	$O2\|\|L_{max}$	Lawler et al. (1981,1982) [8] [9]
*	$O2\|\|\sum C_i$	Achugbue & Chin (1982) [1]
*	$O2\|p_{ij}=1;t_i;r_i\|\sum C_i$	Brucker et al. (2004) [3]
*	$O2\|p_{ij}=1;t_i\|\sum w_iC_i$	Brucker et al. (2004) [3]
*	$O\|p_{ij}=1;r_i\|\sum U_i$	Kravchenko (1999) [7]

- **minimal open:**

$O2\|p_{ij}=1;t_i\in\{T_1,T_2\}\|C_{max}$	$O3\|p_{ij}=1;t_{ikl}=T\|L_{max}$	$O\|p_{ij}=1\|\sum w_iU_i$
$O2\|p_{ij}=1;t_{kl};r_i\|C_{max}$	$O\|p_{ij}=1;r_i\|\sum C_i$	$O2\|p_{ij}=1;t_{ikl}=T\|\sum w_iU_i$
$O3\|p_{ij}=1;t_i\in\{T_1,T_2\}\|C_{max}$	$O2\|p_{ij}=1;t_i\in\{T_1,T_2\}\|\sum C_i$	$O2\|p_{ij}=1;r_i\|\sum T_i$
$O3\|p_{ij}=1;t_{ikl}=T;r_i\|C_{max}$	$O2\|p_{ij}=1;t_{ikl}=T;r_i\|\sum C_i$	$O2\|p_{ij}=1;t_{ikl}=T\|\sum T_i$
$O3\|p_{ij}=1;t_{kl}=t_{lk}\|C_{max}$	$O3\|p_{ij}=1;t_{ikl}=T\|\sum C_i$	$O3\|p_{ij}=1;r_i\|\sum T_i$
$O2\|p_{ij}=1;t_{ikl}=T;r_i\|L_{max}$	$O2\|p_{ij}=1;r_i\|\sum w_iC_i$	$O2\|p_{ij}=1\|\sum w_iT_i$
$O2\|p_{ij}=1;t_{kl}\|L_{max}$	$O3\|p_{ij}=1;r_i\|\sum w_iC_i$	$O3\|p_{ij}=1\|\sum w_iT_i$

- **maximal open:**

$O\|p_{ij}=1;t_{ikl}\|\sum C_i$	$Om\|p_{ij}=1;t_{kl};r_i\|\sum w_iU_i$
$O\|p_{ij}=1;t_{kl};r_i\|\sum w_iC_i$	$O\|p_{ij}=1;t_i\in\{T_1,T_2\};r_i\|\sum w_iT_i$
$O\|p_{ij}=1;t_i\in\{T_1,T_2\}\|\sum w_iU_i$	$O3\|p_{ij}=1;t_{ikl};r_i\|\sum w_iT_i$
$O3\|p_{ij}=1;t_{ikl};r_i\|\sum w_iU_i$	$Om\|p_{ij}=1;t_{kl};r_i\|\sum w_iT_i$
$Om\|p_{ij}=1;t_i\in\{T_1,T_2\};r_i\|\sum w_iU_i$	

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