Table 1. 3rd layer containers (Knapsack problem formulation).

Initiating container (node)	Communicating container (node)	Emission increase/decrease
3-3-5	3-2-5	>
	3-2-4	<
	3-4-6	>
	4-3-4	<
	4-4-5	>
	4-2-6	>
	4-4-6 (max), *r* (max), *RL* (min)	>
	2-3-5	<
	2-2-5	<
	2-3-6	<
	2-4-4	<
3-4-6	3-3-5 (max), *r* (max), *RL* (min)	>
	3-4-7	>
	3-5-6	<
	3-5-5	<
	4-4-6	>
	4-4-5	>
	4-4-7	>
	4-5-6	<
	4-5-7	<
	2-3-5	<
	2-3-6	<
	2-3-7	<
	2-4-7	<
	2-5-5	<
	2-5-6	<
	2-5-7	<
3-4-7	3-4-6	>
	3-5-6	<
	3-4-8	<
	3-5-8	<
	2-4-7	<
	2-3-7	<
	2-3-6	<
	2-5-6	<
	2-5-7	<
	2-5-8	<
	4-4-7	>
	4-3-8	<
	4-5-7	<
	4-4-6 (max), *r* (max), *RL* (min)	>
	4-5-6	>
3-2-5	3-1-6	<
	3-2-4	<
	3-3-5	>
	4-1-6	<
	4-1-5	<
	4-2-6 (max), *r* (max), *RL* (min)	>
	4-3-4	<

	4-1-4	<
	2-2-5	<
	2-1-4	<
	2-3-5	<
	2-3-6	<

Table 2. 4th layer containers.

Initiating container (node)	Communicating container (node)	Emission increase/decrease
4-2-6	4-1-6	<
	4-1-5	<
	3-1-6	<
	3-2-5	>
	3-3-5	>
	5-2-6 (max), *r* (max), *RL* (min)	>
	5-2-7	>
	5-1-6	<
	5-1-7	<
	5-3-5	>
4-4-6	4-4-7	>
	4-4-5 (max), *r* (max), *RL* (min)	>
	4-5-6	<
	4-5-7	<
	3-4-6	>
	3-4-7	>
	3-5-6	<
	3-5-5	<
	5-4-6	>
	5-3-5	>
	5-4-5	>
4-4-5	4-3-4	<
	4-4-6	>
	4-5-6	<
	4-5-4	<
	5-3-5 (max), *r* (max), *RL* (min)	>
	5-3-4	<
	5-4-6	>
	5-4-5	>
	5-5-4	<
4-4-7	4-3-8	<
	4-5-7	<
	4-4-6	>
	4-5-6	<
	3-4-7	>
	3-4-6	>
	3-4-8	<
	3-5-8	<
	3-5-6	<
	5-3-8	<
	5-5-8	<
	5-5-7	<
	5-4-6 (max), *r* (max), *RL* (min)	>

Table 3. 5th layer containers.

Initiating container (node)	Communicating container (node)	Emission increase/decrease
5-3-5	5-2-6	>
	5-4-6	>
	5-4-5	<
	5-3-4	<
	5-2-4	<
	4-4-5	>
	4-4-6	>
	4-3-4	<
	4-2-6 (max), *r* (max), *RL* (min)	>
5-4-5	5-3-5	>
	5-4-6 (max), *r* (max), *RL* (min)	>
	5-5-4	<
	5-3-4	<
	4-5-4	<
	4-4-6	>
	4-5-6	<
	4-3-4	<
	4-4-5	>
5-2-6	5-3-5	>
	5-2-7	<
	5-1-7	<
	5-1-6	<
	4-2-6 (max), *r* (max), *RL* (min)	>
	4-1-6	<
5-2-7	5-2-6	>
	5-1-6	<
	5-1-7	<
	5-1-8	<
	5-3-8	<
	4-2-6 (max), *r* (max), *RL* (min)	>
	4-1-6	<
	4-1-8	<
	4-3-8	<
5-4-6	5-4-6	<
	5-3-5	>
	5-5-7	<
	4-4-6	>
	4-4-5	>
	4-4-7 (max), *r* (max), *RL* (min)	>
	4-5-6	<
	4-5-7	<