



Scheduling of large scale crude oil blending

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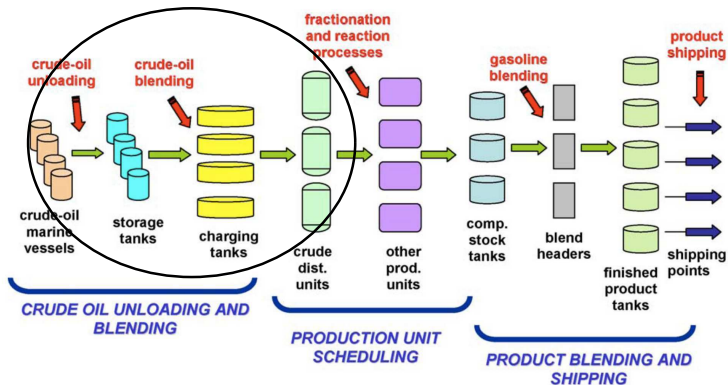
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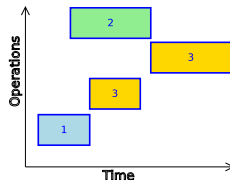
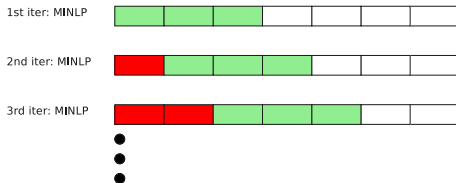
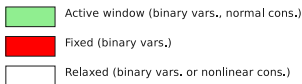
September 2015

Scheduling of oil-refinery operations



Méndez, C.A., Grossmann, I.E., Harjunkoski, I., Kaboré, P. A simultaneous optimization approach for off-line blending and scheduling of oil-refinery operations. *Computers & Chemical Engineering*, 2006, 30 (4): 614-634.

Priority-slot based formulation with Progressive solution



Window size	Wall Time [min]	Progressive MINLP + fractional pen (obj.fun.)	
		McCormick	Gap
2	0.3	No	infeasible
3	0.3	No	infeasible
4	3.6	No	infeasible
2	3.0	Modified	40.00%
3	6.5	Modified	infeasible
4	3.6	Modified	infeasible
2	0.3	Yes	infeasible
3	2.0	Yes	4.89%
4	2.6	Yes	0.16%

Window size	Wall Time [min]	Progressive MINLP + Sym break (obj.fun.) + fractional pen (obj.fun.)	
		McCormick	Gap
2	0.3	No	infeasible
3	5.0	No	infeasible
4	10.0	No	0.19%
2	3.9	Modified	infeasible
3	4.5	Modified	3.11%
4	10.0	Modified	6.64%
2	0.2	Yes	infeasible
3	2.3	Yes	infeasible
4	0.3	Yes	infeasible

Mouret, S., Grossmann, I., Pectiaux, P. A Novel Priority-Slot Based Continuous-Time Formulation for Crude-Oil Scheduling Problems. Industrial & Engineering Chemistry Research, 2009, 48 (18): 8515-8528.