DIPIC
DIPARTIMENTO DI
PRINCIPI E IMPIANTI DI INGEGNERIA CHIMICA "I. Sorgato"

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The data contained in this `.zip` package are those used in the paper:

Facco, P., F. Doplicher, F. Bezzo and M. Barolo (2009). Moving-average PLS soft sensor for online product quality estimation in an industrial batch polymerization process. *J. Process Control*, **19,** 520-529. doi:10.1016/j.jprocont.2008.05.002

We share these data under the understanding that their **use is exclusively for academic research or academic teaching activities, or for self-training. Any form of commercial use or exploitation of the data is strictly prohibited.**
The `.zip` package and the data therein shall not be disclosed or distributed to third parties without the prior written permission of the corresponding author (Prof. M. Barolo).
Whenever the results deriving from the use of these data are disclosed to a community in any form, a reference to the above paper should be explicitly included.

We would be most pleased to keep track of any further work stemming from the use of these data. Therefore, we gratefully thank for any feedback or information that the data users will provide us with.

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The available process and quality data are collected into single `.xls` files. Each `.xls` file contains two sheets: one is named `Process variables` and the other one is named `Quality variables`.
In the `Process variables` sheet, the process variable time trajectories are collected in 34 columns (plus one column for the time). For each column of this sheet, Table 1 lists the variable name and whether or not the variable has been selected for use in the PLS model.
In the `Quality variables` sheet, the quality variables for the same batch are listed (Table 2).

Table 1. *List of the process variables included in the `Process variables` sheet.*

On-line monitored variable	*Column*	*Selected*	*Not selected*
date and time of the day	*1*		
mixing rate (%)	2	×	
mixing rate	3	×	
mixing rate SP	4		×
vacuum line temperature (°C)	5	×	
inlet dowtherm temperature (sensor 1) (°C)	6	×	
outlet dowtherm temperature (°C)	7	×	
reactor temperature (sensor 1) (°C)	8	×	
(dummy)	9		×
column head temperature (sensor 1) (°C)	10	×	
valve V25 temperature (°C)	11		×
scrubber top temperature (°C)	12	×	
inlet water temperature (°C)	13	×	
column bottom temperature (°C)	14	×	
scrubber bottom temperature (°C)	15	×	
reactor temperature (Sensor 2) (°C)	16	×	
condenser inlet temperature (°C)	17	×	
valve V14 temperature (°C)	18	×	
valve V15 temperature (°C)	19	×	
reactor differential pressure (°C)	20	×	
(dummy)	21		×
column top temperature PV (Sensor 2) (°C)	22	×	
column top temperature SP(°C)	23		×
V42 way-1 valve opening (%)	24	×	
inlet dowtherm temperature PV (Sensor 2) (°C)	25	×	
inlet dowtherm temperature SP(°C)	26		×
V42 way-2 valve opening (%)	27	×	
reactor temperature PV (Sensor 2) (°C)	28	×	
reactor temperature SP (°C)	29		×
(dummy)	30		×
valve V25 temperature PV (°C)	31		×
valve V25 temperature SP (°C)	32		×
valve V42 valve opening (%)	33	×	
reactor vacuum PV (mbar)	34	×	
reactor vacuum SP (mbar)	35		×

Table 2. *List of the quality variables included in the `Quality variables` sheet.*

Quality variable	**Column**	**Selected**	**Not selected**
(date and) time of the day	*1*		
acidity number (g_{KOH}/g_{resin})	2	×	
viscosity (poise)	3	×	