SPECTCOL : New interface improved with the query store connection

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SPECTCOL

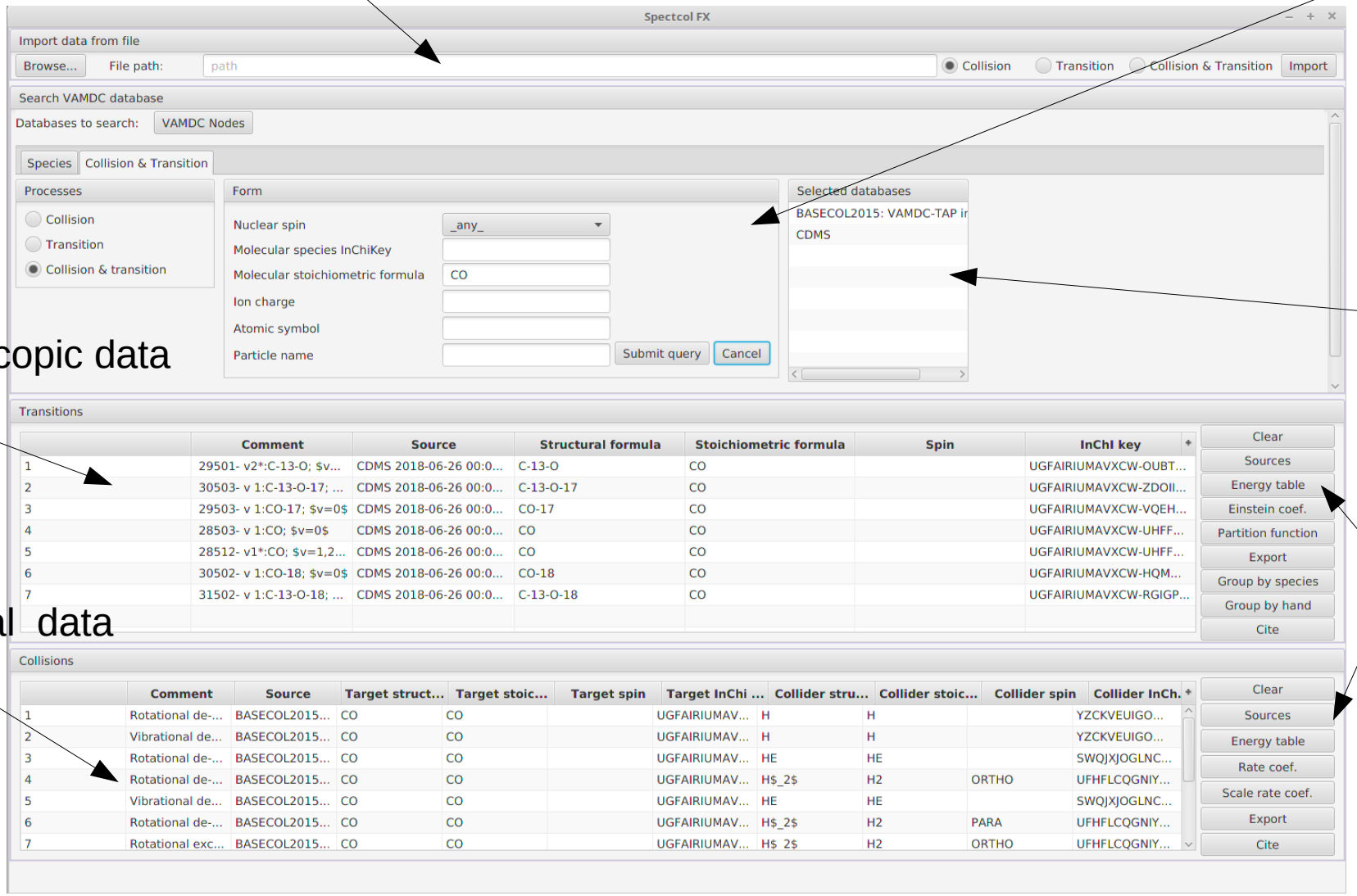
- A graphical tool implemented in JavaFx.
- Manipulates and combines spectroscopic and collisional data coming from the Databases (CDMS, JPL, BASECOL, HITRAN,...) using VAMDC technology.
- Manipulates and provides methods to convert XSAMS(Xml Schema for Atoms, Molecules and Solids) data into other formats (CSV, RADEX, LTE).
- Interoperability with other VO-tools (Topcat)
- Connection with the query store

http://www.vamdc.org/activities/research/software/spectcol/

VAMDC consortium

l'Observatoire de Paris

SPECTCOL main panel



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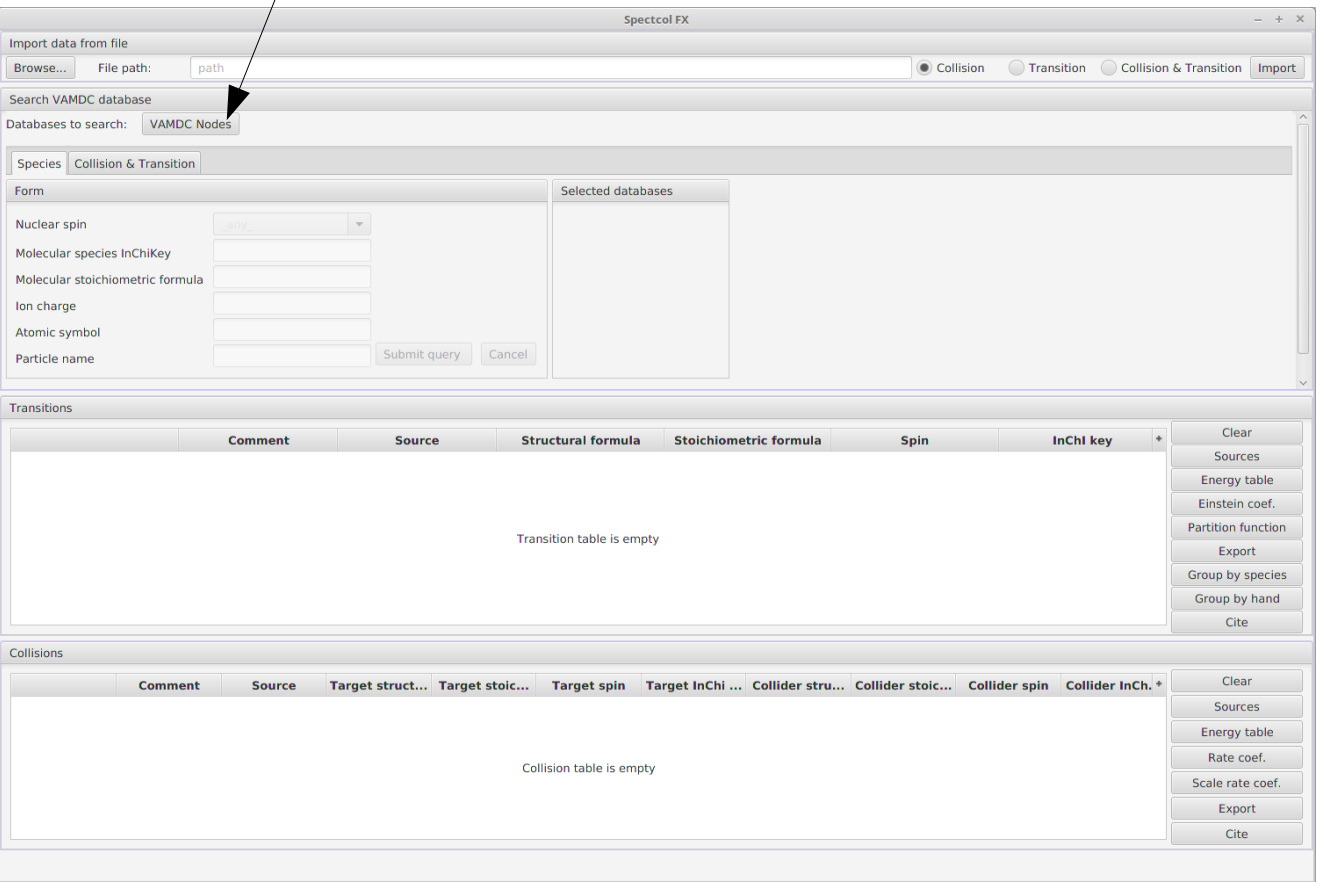
SPECTCOL : Interoperability

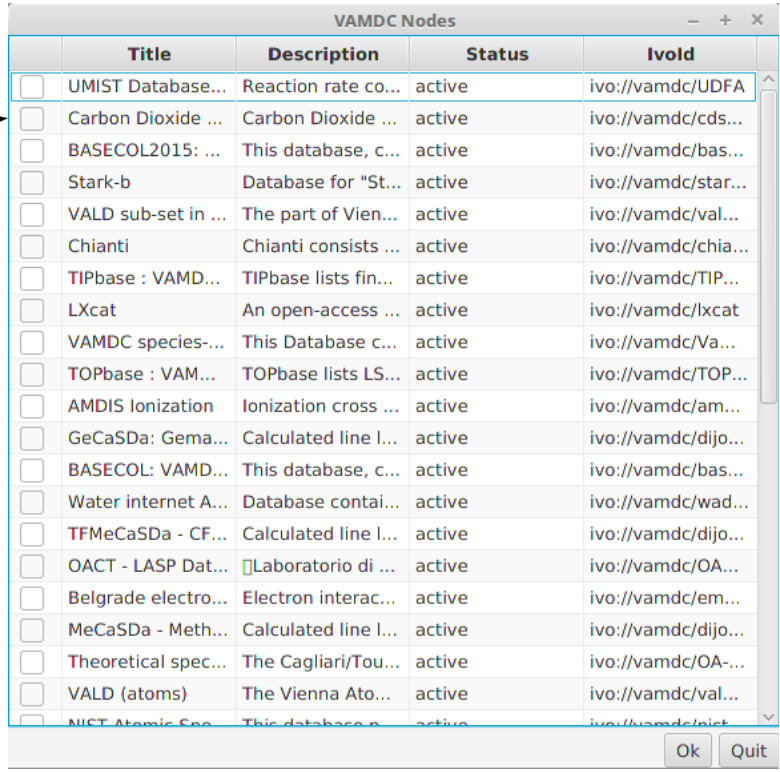
Spectcol can send data table with SAMP (which was easily integrated)

- Data are sent in VO-Table format
- All tables (Energies, Einstein coefficients, Rate coefficients and Partition functions) can be sent to any tool accepting VO-Table such as TopCat

Use case (1): Plot CO Einstein Coeff. with TopCat

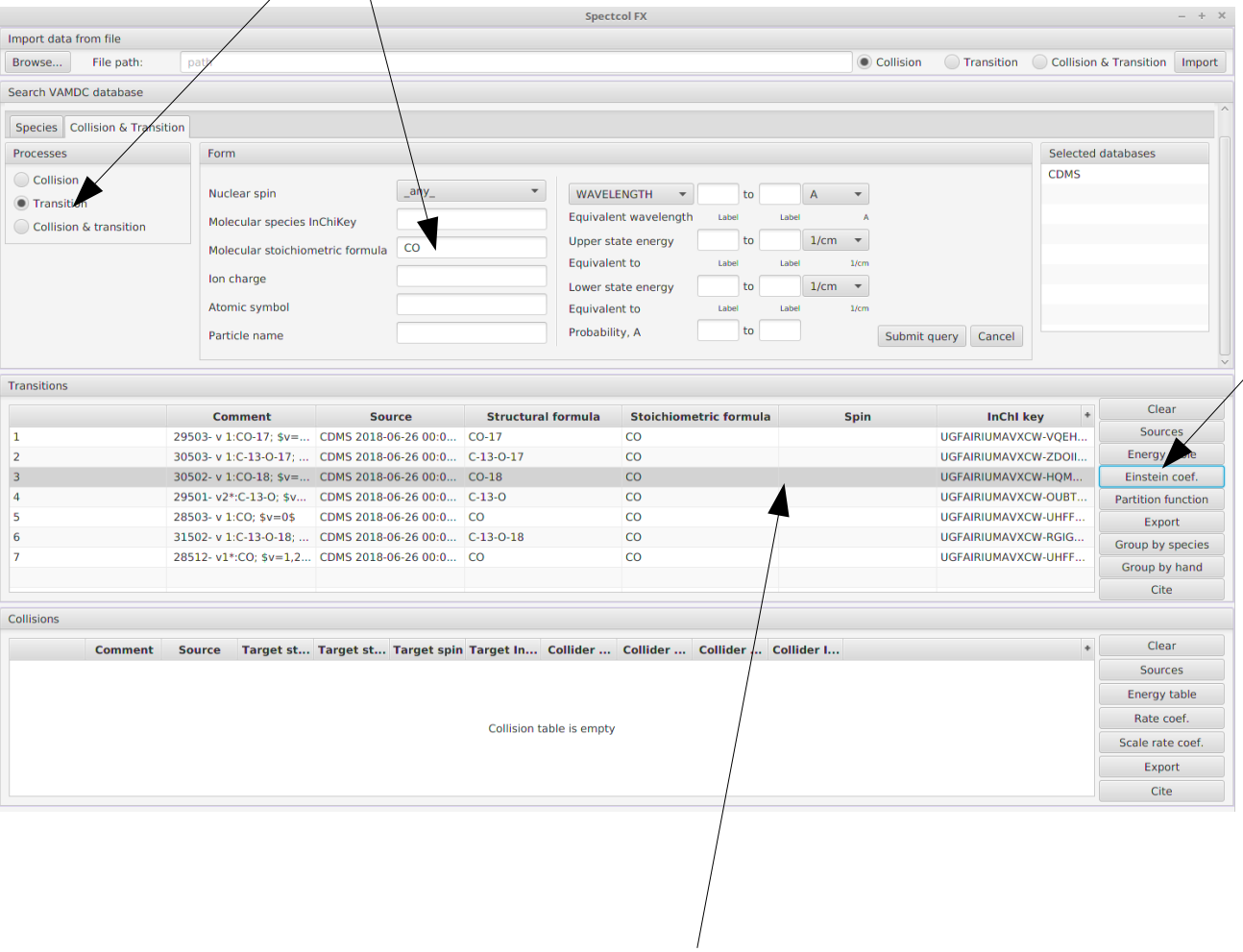
1. Select a database (ex : CDMS)



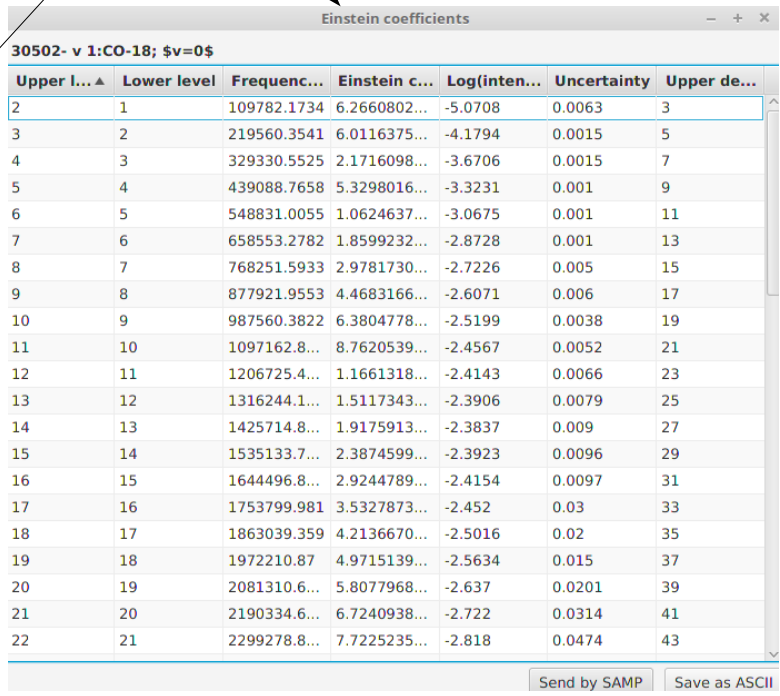


Use case (1): Plot CO Einstein Coeff. with TopCat

2. Select the transition process and Search a molecule (ex : CO)



4. Display Einstein table



3. Select a spectroscopic dataset

Use case (1): Plot CO Einstein Coeff. with TopCat

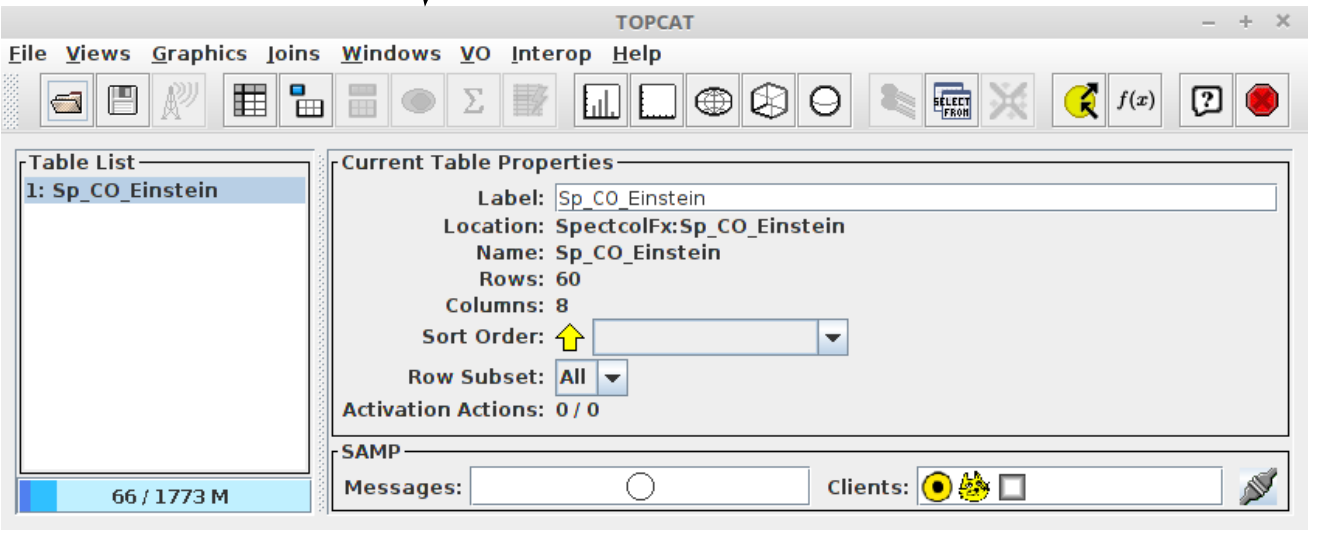
Einstein coefficients

30502- v 1:CO-18; $v=0$

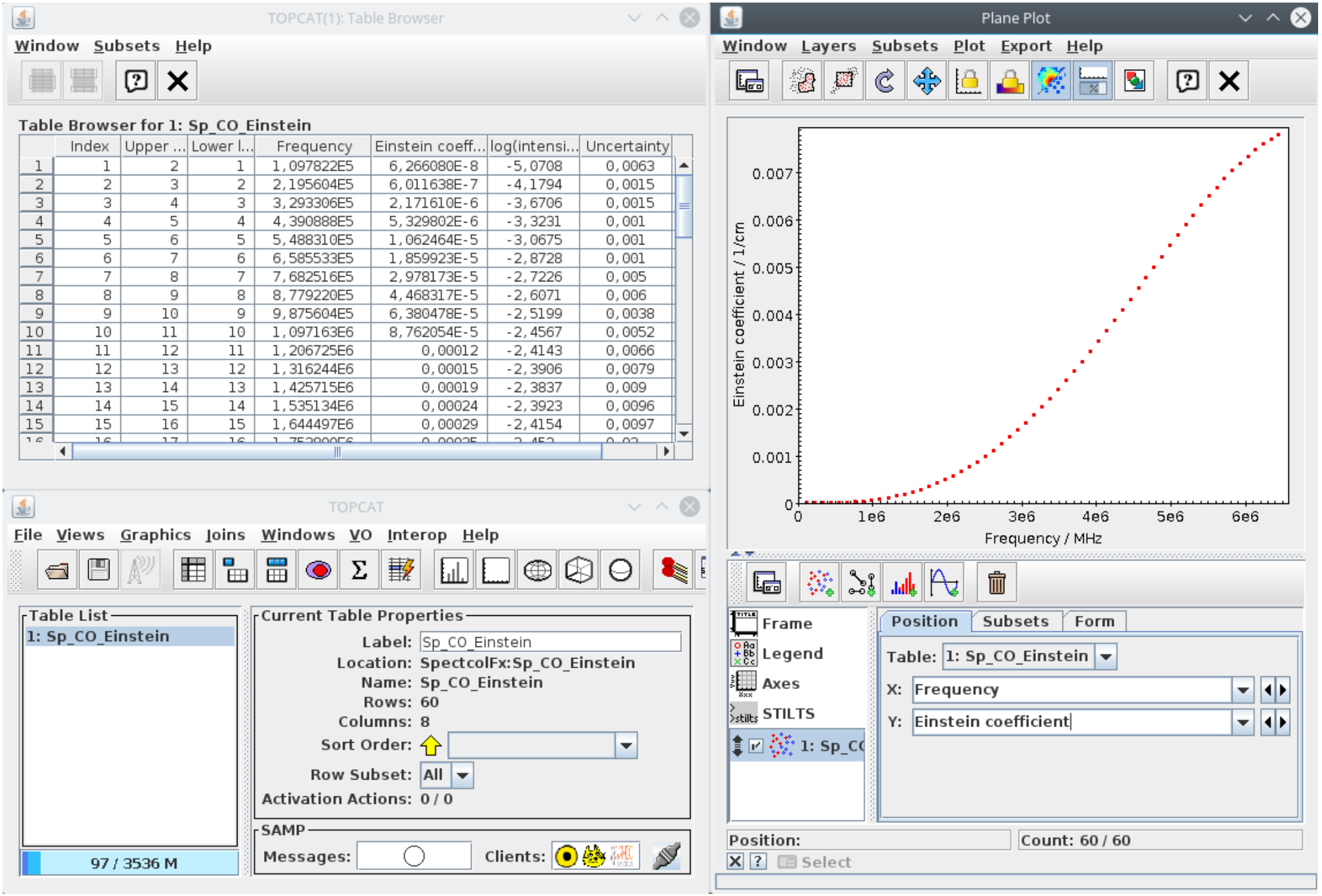
Upper l...	Lower level	Frequenc...	Einstein c...	Log(inten...	Uncertainty	Upper de...
2	1	109782.1734	6.2660802...	-5.0708	0.0063	3
3	2	219560.3541	6.0116375...	-4.1794	0.0015	5
4	3	329330.5525	2.1716098...	-3.6706	0.0015	7
5	4	439088.7658	5.3298016...	-3.3231	0.001	9
6	5	548831.0055	1.0624637...	-3.0675	0.001	11
7	6	658553.2782	1.8599232...	-2.8728	0.001	13
8	7	768251.5933	2.9781730...	-2.7226	0.005	15
9	8	877921.9553	4.4683166...	-2.6071	0.006	17
10	9	987560.3822	6.3804778...	-2.5199	0.0038	19
11	10	1097162.8...	8.7620539...	-2.4567	0.0052	21
12	11	1206725.4...	1.1661318...	-2.4143	0.0066	23
13	12	1316244.1...	1.5117343...	-2.3906	0.0079	25
14	13	1425714.8...	1.9175913...	-2.3837	0.009	27
15	14	1535133.7...	2.3874599...	-2.3923	0.0096	29
16	15	1644496.8...	2.9244789...	-2.4154	0.0097	31
17	16	1753799.981	3.5327873...	-2.452	0.03	33
18	17	1863039.359	4.2136670...	-2.5016	0.02	35
19	18	1972210.87	4.9715139...	-2.5634	0.015	37
20	19	2081310.6...	5.8077968...	-2.637	0.0201	39
21	20	2190334.6...	6.7240938...	-2.722	0.0314	41
22	21	2299278.8...	7.7225235...	-2.818	0.0474	43

Send by SAMP | Save as ASCII

5. Launch TopCat first and send it Einstein table



Use case (1) : Plot CO Einstein Coeff. with TopCat



SPECTCOL : Automatic data citation

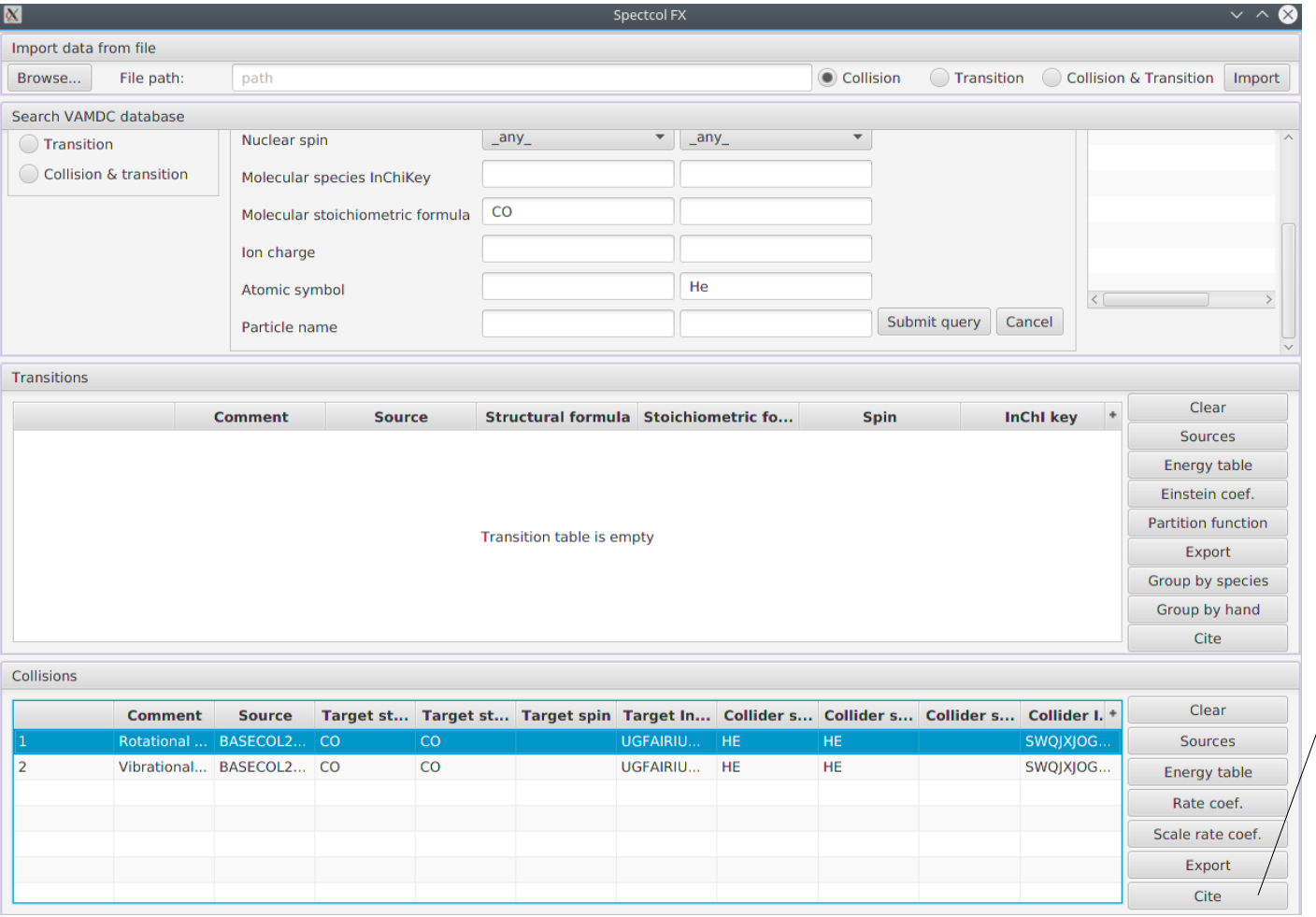
Spectcol can communicate with the query store and show data citation.

- Retrieve the query token generated by the node.
- Make an association with the query store and get the UUID
- Get the citation linked to the UUID

Use case (2) : Data citation

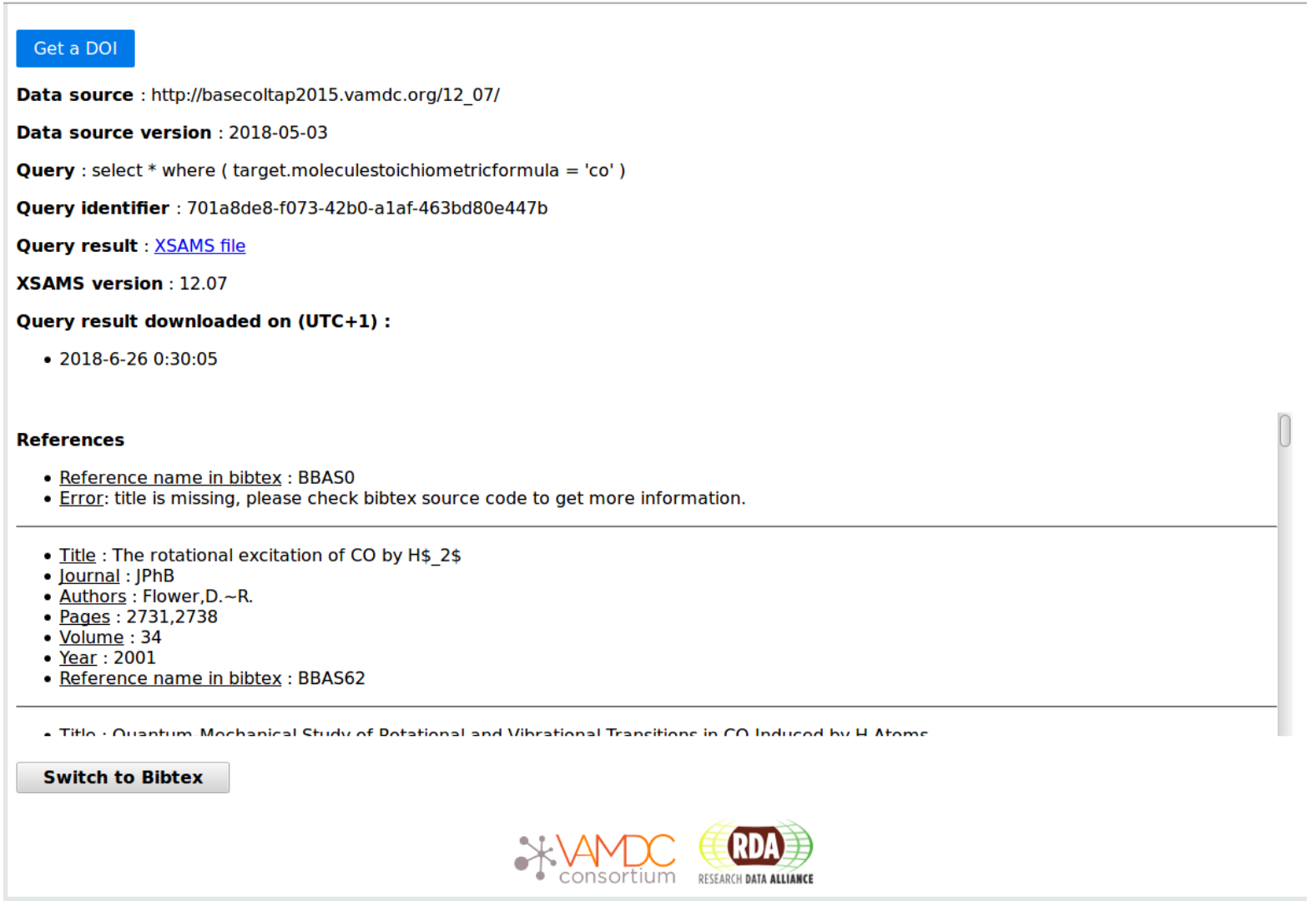
Same procedure than the spectroscopy to search collisional data :

1. Select the new BASECOL database
2. Search the collision CO-HE
3. Select a dataset
4. Display the link of the citation



Use case (2) : Data citation

Copy the link in a browser
Get data citation



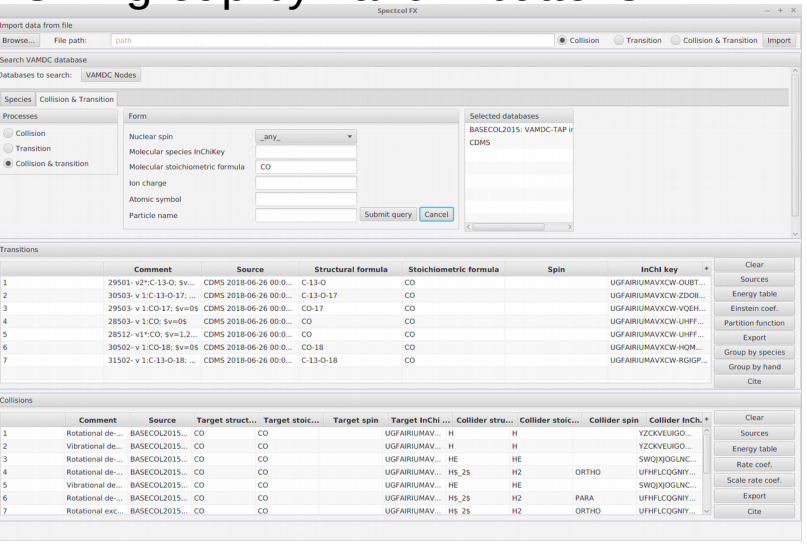
SPECTCOL : Matching data

Spectcol can combine the spectroscopic and collisional data.

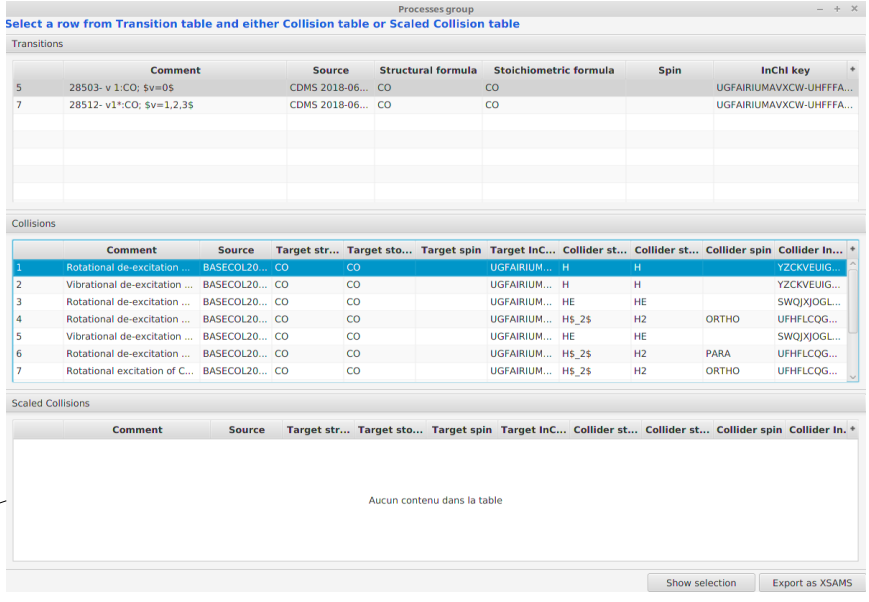
- Query both databases : spectroscopic and collisional databases. Ex: Basecol and JPL
- Select a dataset of each of them
- Select the quantum numbers and let spectcol do the job

Use case (3) : Matching data

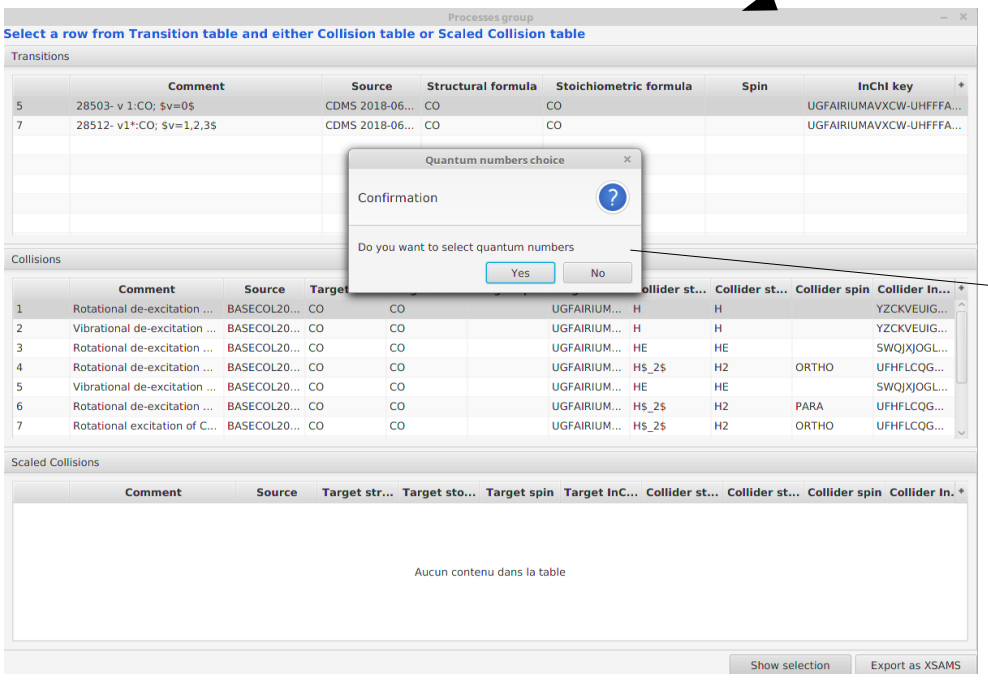
1. query databases and select
« group by species»
Or « group by hand » buttons

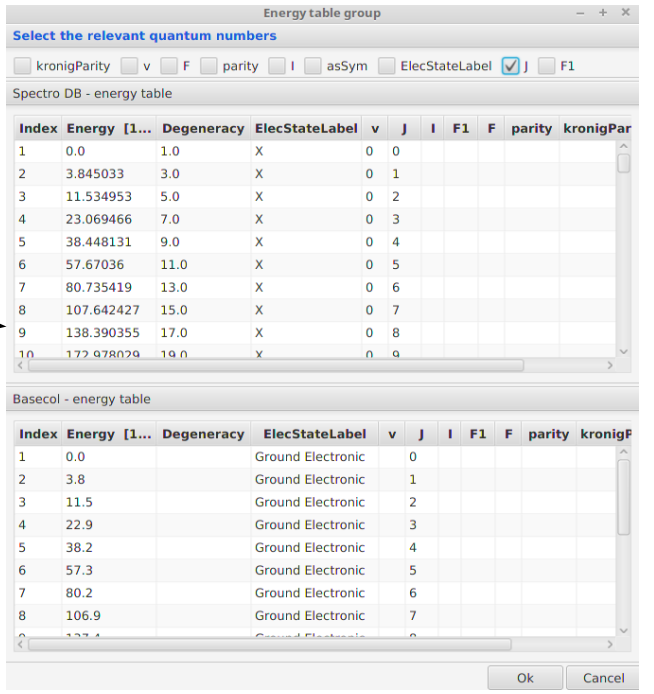


2. Select the datasets

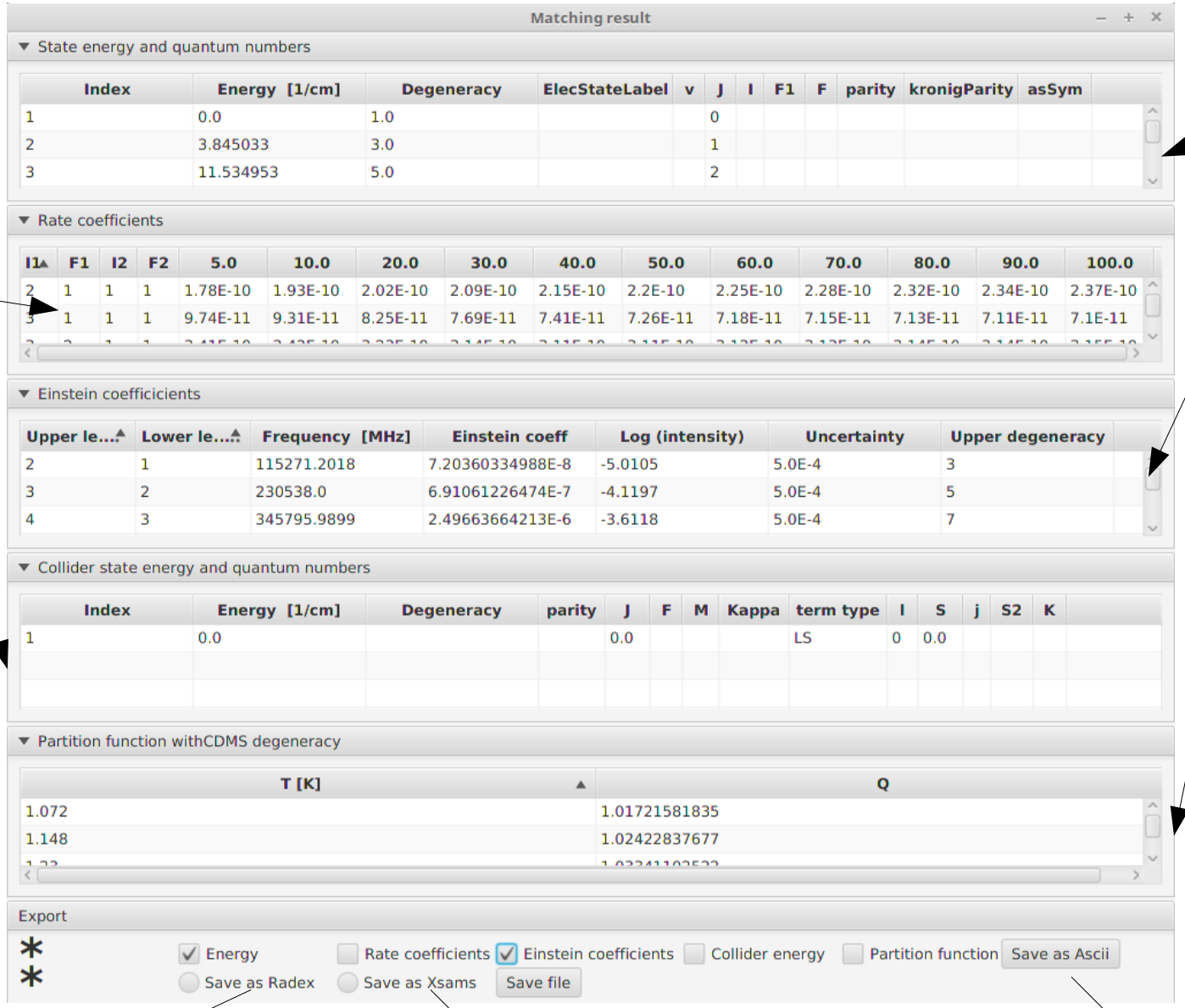


3. Choose the quantumnumbers





Use case (3) : Ouput



Spectroscopic data

Collisional data

Radex File

XSAMS File

Ascii File

Contact

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- VAMDC Consortium website : http://www.vamdc.org/

Thank you