The following content serves as supplementary data for the manuscript titled *'A Family of Minimum Residual Displacement Methods as Nonlinear Solution Schemes for Equilibrium Path Following in Structural Mechanics.*' This paper introduces a family of methods and conducts a comparative analysis with several well-known path following techniques. The examples encompass a diverse range of truss, frame, and shell structures. In the case of shell structures, we have conducted analyses on isotropic and composite shells. All simulations were performed using OpenSees, and the code has been implemented in C++ as a library within OpenSees. We have included a manual to facilitate easy code execution, result verification, and potential further development of the methods.

To obtain the results showcased in the article's examples, one should follow these steps:

1- Go to the bin folder and run the OpenSees.exe file.

2- To solve each example in the command line, we call the corresponding file as below:

OpenSees > source input.tcl

3- The response of the structure was recorded in files with the extension of .rec

4- The order format of the methods implemented in the article is as follows

integrator EQPath $arc_length $type <element or node> <-dof 1 2 3 …>

Note: *EQPath* is a command that create instance of class *EQPath* integrator for path following of structures.

$arc_length is increment arclength, also referred to as step length.

$type is method id.

Table S1 shows methods and their name as implemented in OpenSees.

Table S1. The name of the methods in the provided class

Id	Method
1	MRD
2	NP
3	UNP
4	CYL
6	GDC
7	MUNP
9	GMRD

Here, there are some notes that might be important to those using *EQpath*.

- If the type of GMRD (9) method is chosen, its type of element or node must be selected and then the degrees of freedom that should be considered should also be taken into account.
- In 2D truss structures, the number of degrees of freedom is 1 and 2 for X and Y transition.
- The number of degrees of freedom of 2D frame structures is 1, 2 and 3 for X and Y translation and Z rotation.
- 3D truss structures have degrees of freedoms of 1, 2, and 3 for X, Y, and Z transition.
- For The shell structure is with 6 DOFs with three degrees of freedom 1, 2 and 3 for translation and 4, 5 and 6 are for rotation.