

Supporting Information

The image displays two screenshots of the UniProt search interface. The top screenshot shows a search for "Melittin AND anti-Cancer" resulting in 3 UniProtKB results. The bottom screenshot shows a search for "Temporins AND anti-Cancer" resulting in 1 UniProtKB result.

UniProtKB 3 results

Entry	Entry Name	Protein Names	Gene Names	Organism	Length
P0DPR9	MELN_APICE	Melittin-N[...]	MELT	Apis cerana (Indian honeybee)	70 AA
C0HL98	MAC1_MACFV	Macropin[...]		Macropis fulvipes (Solitary bee) (Megilla fulvipes)	13 AA
P0DQX5	HAL2_HALST	Halictine-2[...]		Halictus sexcinctus (Six-banded furrow bee) (Apis sexcincta)	12 AA

UniProtKB 1 result

Entry	Entry Name	Protein Names	Gene Names	Organism	Length
P57104	TPL_RANTE	Temporin-1TI[...]		Rana temporaria (European common frog)	13 AA

Figure S1. Search Melittin and Temporins in UniProt

```
>sp|C0HL98|MAC1_MACFV Macropin OS=Macropis fulvipes OX=465486 PE=1 SV=1 Melittin
GFGMALKLLKKVL
>sp|P0DQX5|HAL2_HALST Halictine-2 OS=Halictus sexcinctus OX=115105 PE=1 SV=1 Melittin
GKWMSSLKHILK
>sp|P0DPR9|MELN_APICE Melittin-N OS=Apis cerana OX=7461 GN=MELT PE=1 SV=1 Melittin
MKFLVNVALVFMVVYISYIYAAPEPEPAPEPEAEADAEADPEAGIGAVLKVLTTGLPALINWIKRKRQQG
>Melittin|HY-P0233
GIGAVLKVLTTGLPALISWIKRKRQQ
>sp|P57104|TPL_RANTE Temporin-1T1 OS=Rana temporaria OX=8407 PE=1 SV=1|
FVQWFSKFLGRIL
```

Figure S2. Five sequences data of Melittin and Temporins from UniProt and <https://www.medchemexpress.cn/>. They are stored in FASTA format.

RFaaindexACP

a web server for the identification of anti-cancer peptides merely using sequence-based amino-acids index features
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Input Peptides sequence in *FASTA* format and *Run*

Please input no more than 10 sequences. If there is a 504 error or other errors, please wait for a few minutes and refresh the page again. Or wait for several minutes and then resubmit the task. If you need to predict more 10 sequences, please contact Dr.Lv. **MAKE SURE** peptides sequences in **ONE line ! and the length of them is not more than 100!**

```
>sp|CUHL98|MAC1_MACFV Macropin OS=Macropis fulvipes OX=465486 PE=1 SV=1 Melittin
GFGMALKLLKKVL
>sp|PODQX5|HAL2_HALST Halictine-2 OS=Halictus sexcinctus OX=115105 PE=1 SV=1 Melittin
GKWSLLKHILK
>sp|PODPR9|MELN_APICE Melittin-N OS=Apis cerana OX=7461 GN=MELT PE=1 SV=1 Melittin
MKFLVNVALVFMVVYISYIYAAPEPEPAPEPEAEADAEADPEAGIGAVLKVLTTGLPALINWIKRKRQQG
>Melittin|HY-P0233
GIGAVLKVLTTGLPALISWIKRKRQQ
>sp|P57104|TPL_RANTE Temporin-1T1 OS=Rana temporaria OX=8407 PE=1 SV=1|
FVQWFSKFLGRIL
```

Figure S3. Five sequences data of Melittin and Temporins input in the webserver.

RFaindexACP

a web server for the identification of ANTI-CANCER peptides merely using AAindex features

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Results

SEQUENCES	ANTI-CANCER PEPTIDES	CONFIDENCE
GFGMALKLLKKVL	YES	65.81%
GKWMSLLKHILK	YES	67.57%
MKFLVNVALVFMVVYISYIYAPEPEPAPEPEAEADAEADPEAGIG...	YES	52.92%
GIGAVLKVLTGLPALISWIKRKRQQ	YES	60.21%
FVQWFSKFLGRIL	YES	65.57%

Figure S4. The predict results of five sequences data of Melittin and Temporins are shown in the webserver.

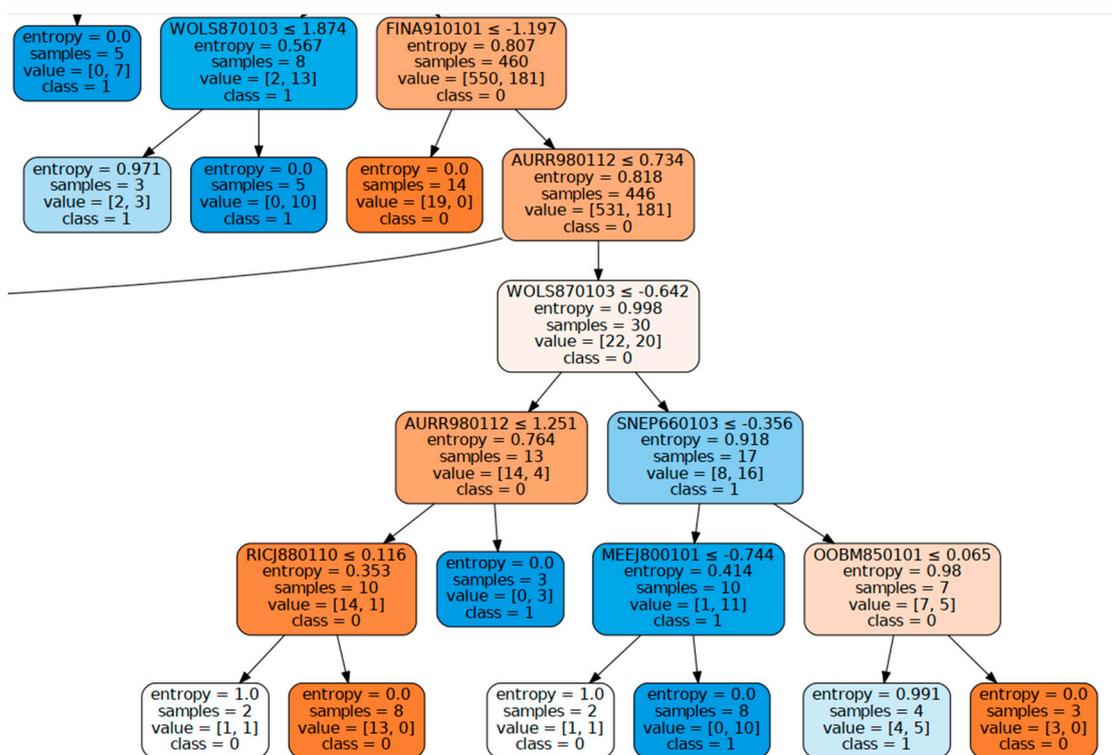
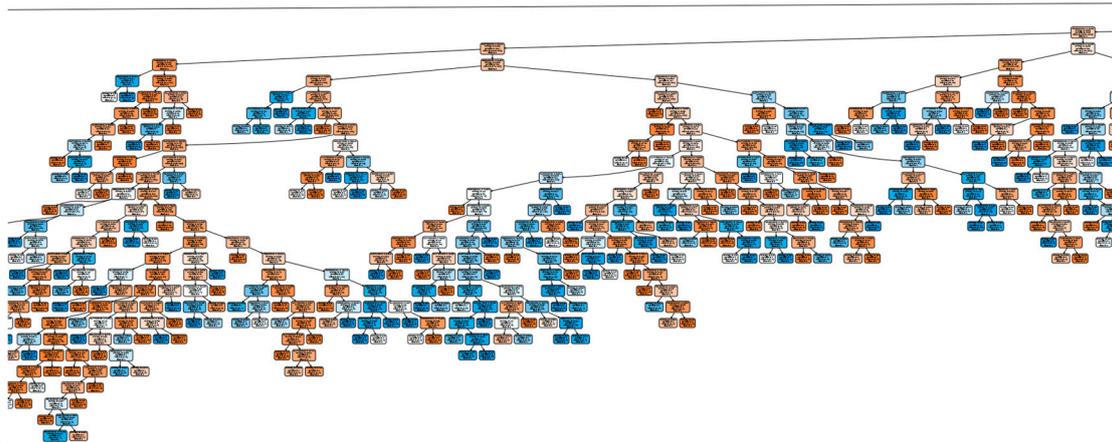


Figure S5. Local magnification of binary tree in random forest. The global view of the random forest was shown in the supporting materials named **GolbalViewOfRF.pdf**.

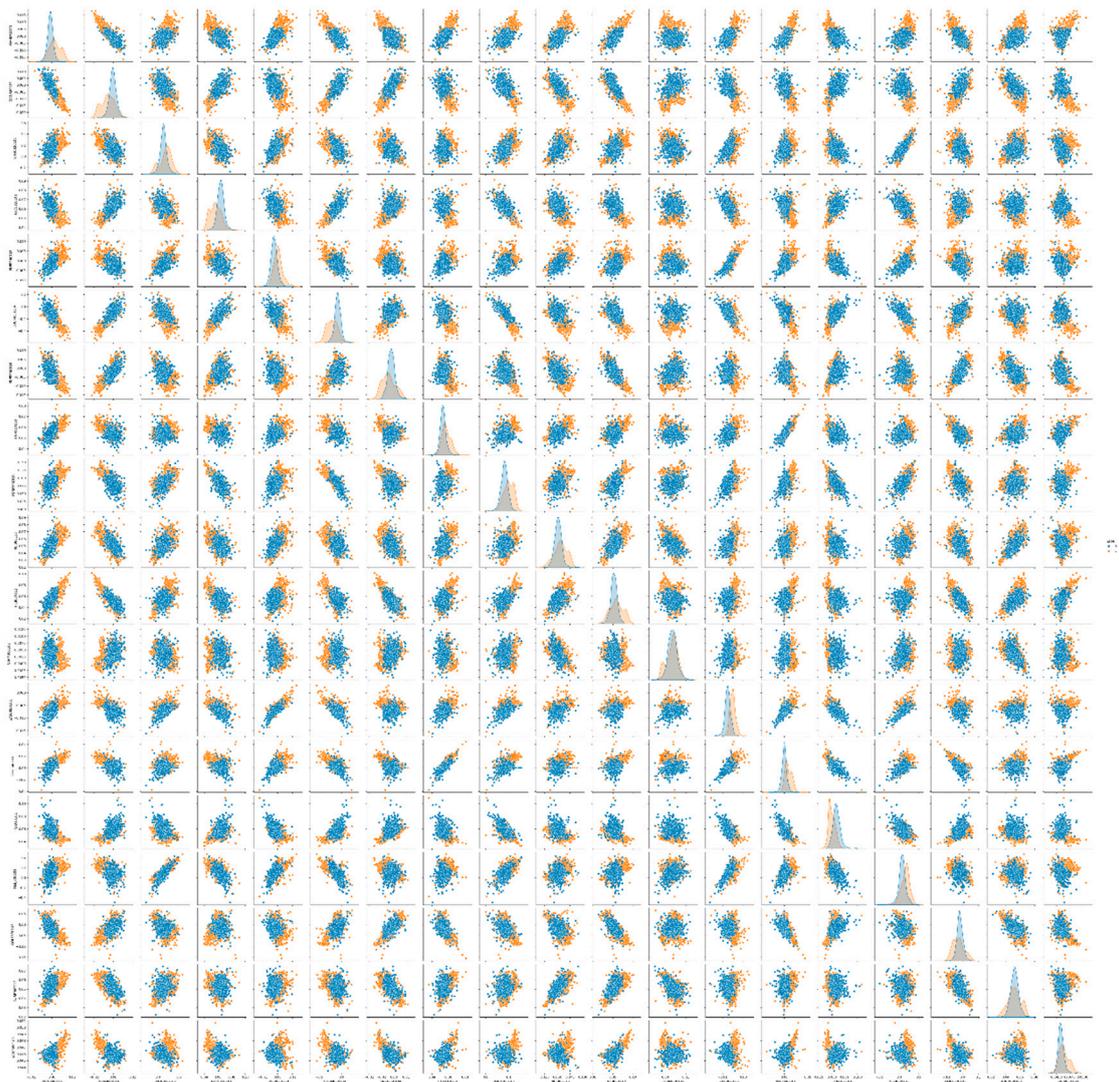


Figure S7. For the feature data of ACPalt dataset, 19 feature pairwise relationship joint distribution maps.

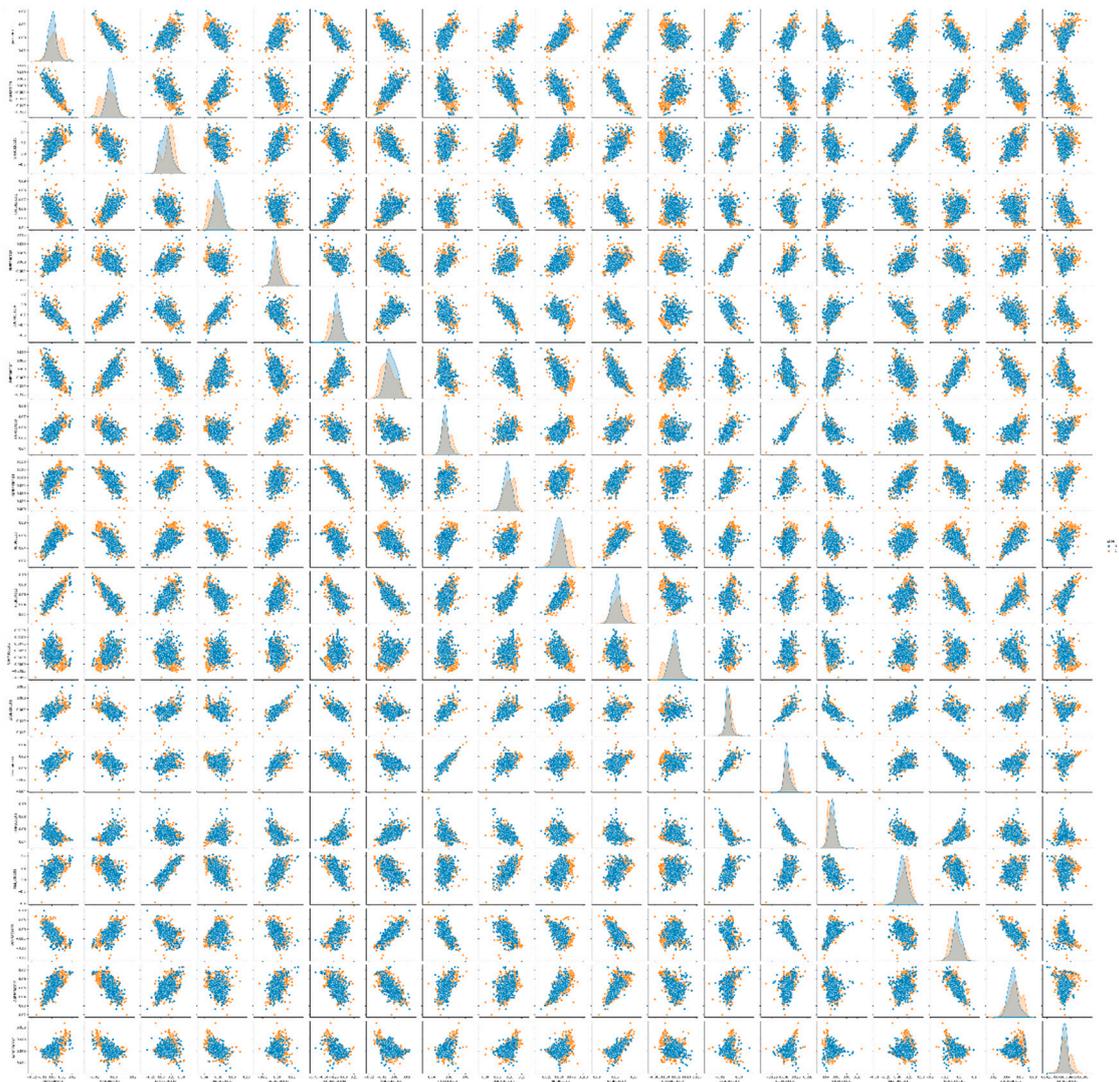


Figure S8. For the feature data of ACPmain dataset, 19 feature pairwise relationship joint distribution maps

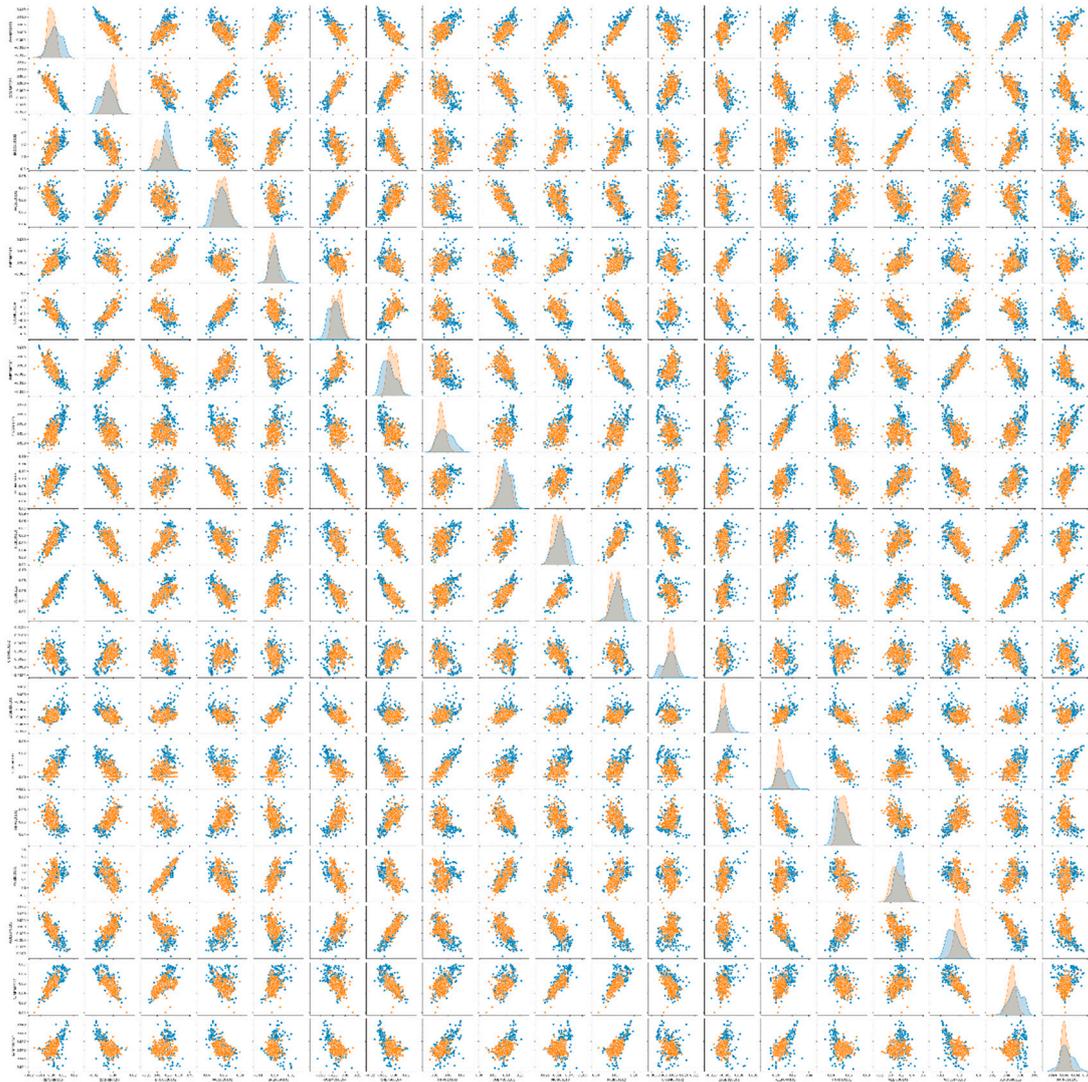


Figure S9. For the feature data of ACPred_FL dataset, 19 feature pairwise relationship joint distribution maps.

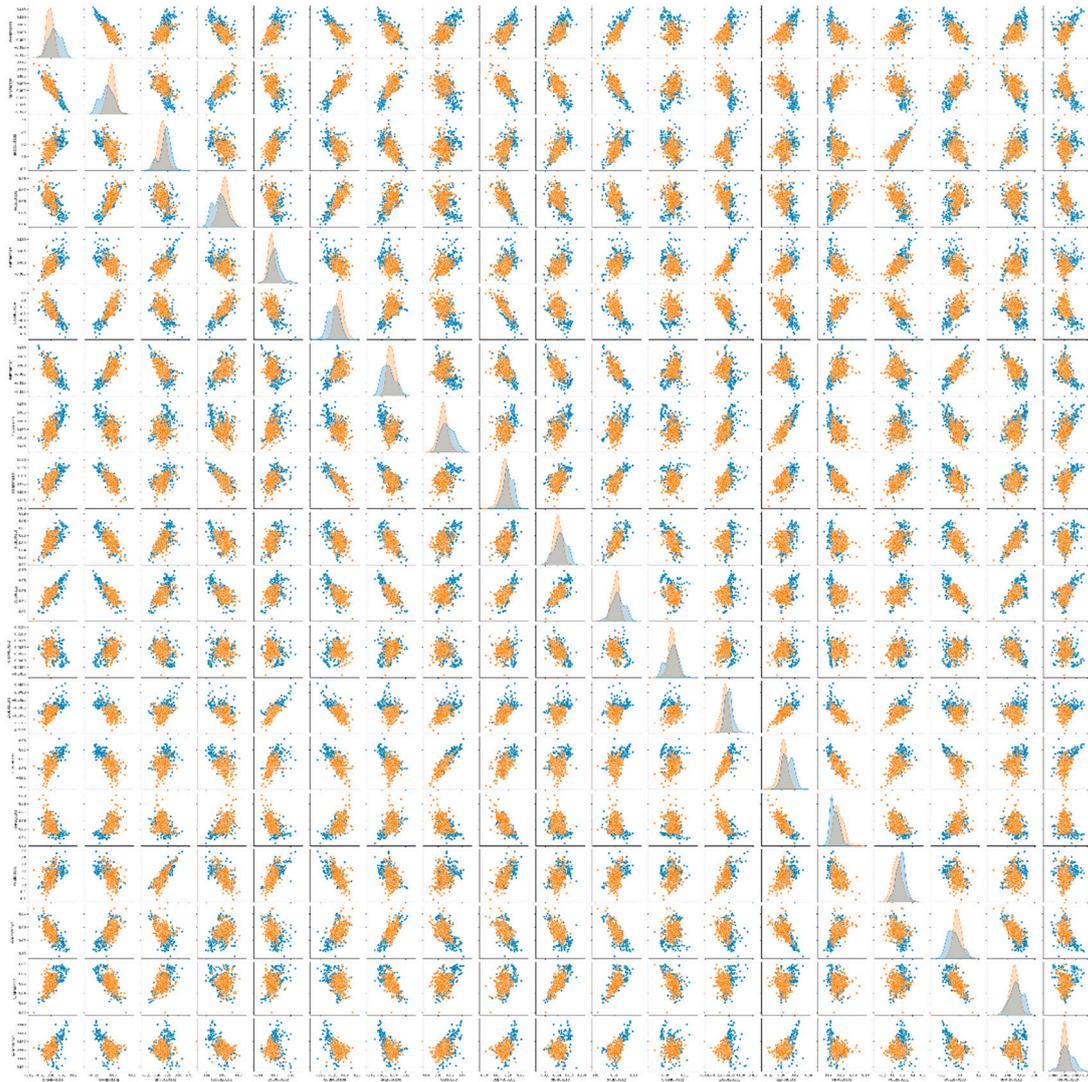


Figure S10. For the feature data of ACPred_Fuse dataset, 19 feature pairwise relationship joint distribution maps.